DOCUMENT RESUME

ED 183 552 SP 015 770

AUTHOR	Waterman, Floyd T.: And Others
TITLE	Designing Short-Term Instructional Programs.
INSTITUTION	Association of Teacher Educators, Washington, D.C.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Teacher Corps.
PUB DATE	79
CONTRACT	300-77-0156
NOTE	149p.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Administration: *Guidelines: *Inservice Teacher Education: *Instructional Programs: Participant Satisfaction: Program Content: *Program Design: Program Development: Program Evaluation: Site Selection: Teaching Methods
IDENTIFIERS	*Teacher Corps

ABSTRACT

The Experiences and research data in this volume result from the authors' involvement in Corpsmember Training Institutes (CMTIs) and Pilot Trainer Workshops (PTWs) established to train teacher interns beginning their Teacher Corps internship. Six articles are presented on: administration of short-term instructional programs, workshop design, implementation of workshops and teachers' institutes, methods of evaluating programs, data- and experience-based guidelines for designing and operating short-term instructional programs, an empirical study of the institute-workshop strategies discussed in the third article. (JD)

****
* Reproductions supplied by EDPS are the best that can be made *
* from the original document. *
****

ED183552

SP

short-term

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SP015720

2

DESIGNING short-term INSTRUCTIONAL PROGRAMS

Floyd T. Waterman • *Theodore E. Andrews*
W. Robert Houston • *Brenda L. Bryant*
Roger S. Pankratz

Developed by Teacher Corps

Published, Washington, D.C. — 1979, by
ASSOCIATION OF TEACHER EDUCATORS

3

MAR 19 1980

Association of Teacher Educators
1701 K Street, N.W.
Suite 1201
Washington, D.C. 20006

Library of Congress
Catalog Number 79-57054

This material was produced pursuant to Contract Number 300-77-0156 between the Center for Urban Education at the University of Nebraska at Omaha and the Teacher Corps, United States Office of Education, Department of Health, Education and Welfare. Contractors undertaking projects under such government sponsorship are encouraged to freely express their professional judgment in the conduct of such projects. Points of view or opinion stated here, therefore, do not represent official positions or policy of the United States Office of Education.

Developmental Training Activities Contract Director:
Floyd T. Waterman
Editing and text design by Joan M. Krager
Cover design by Abigail Moseley

TABLE OF CONTENTS

Chapter

1 Introduction 3

2 The Administration of Short-Term Instructional Programs 9
by Floyd T. Waterman

3 Our Best Advice 25
by Theodore E. Andrews

4 Institute Strategies 39
by W. Robert Houston

5 Evaluating Training Programs 49
by Brenda L. Bryant and W. Robert Houston

6 Therefore We Should . . . 75
by Roger S. Pankratz

Appendix

Empirical Study of Institute Strategies 87
by W. Robert Houston

STUDY GUIDE TO THE APPENDIX

	Participant Achievement	90
1	Cluster Achievement	94
2	Time on Task	96
3	Perceived Emphasis and Achievement	100
4	Direct and Interactive Instruction and Achievement	101
5	Perceived Emphasis and Direct or Interactive Instruction	104
6	Perceived Instructor Competence and Participant Achievement	106
7	Task Orientation and Achievement	109
8	Assessment of Institute and Achievement	115
	Multicultural Experience	117
9	Childhood Residence and Culture	117
10	Race and Culture	119
11	Childhood Residence and Perceived Multicultural Achievement	120
12	Race and Perceived Multicultural Achievement	123
13	Race and Institute Assessment	126
	Staffing and Instructional Styles	127
14	Staff Experience and Institute Assessment	128
15	Direct Instruction, Interactive Instruction, and Institute Assessment	132
16	Instructor Input into Planning and Institute Assessment	136
17	Direct Instruction, Interactive Instruction, and Perceived Instructor Competence	139
18	Task Orientation and Perception of Concept Emphasis	140
19	Content Emphasis and Institute Rating	142
	Summary of Findings	143

FOREWORD

On some joyous occasions a publication is released that is both timely and particularly well done. ATE believes that *Designing Short-Term Instructional Programs* is such a publication and takes considerable pride in bringing it to the educational community.

The increasing flexibility and creativity of educational programs is obvious to any professional educator. And rightly so if we are to meet the variety of needs which both exist and arise in our rapidly changing world.

And yet, there are principles regarding the learning process which hold true and one of the major contributions of this publication is the reiteration of some of these principles.

- Learning is a very personal thing.
- Live the principles being taught.
- Develop a sense of responsibility for your own learning.
- Consistency is a need.
- Simulation is best when close to reality.
- Everyone is a resource.

These comments serve to set a tone and to provide guidelines for *Designing Short-Term Instructional Programs*.

ATE believes that any educator who is actively involved in

designing learning programs (and all good teachers are) will enjoy and profit from this publication.

Robert J. Stevenson
Executive Director
Association of Teacher Educators

Chapter 1

INTRODUCTION

Educators are involved in an increasing number of training activities, particularly as interest in inservice education grows while increasing numbers of staff development activities are undertaken in schools and colleges. These experiences are identified under a number of different labels: as workshops, institutes, training laboratories, retreats, and inservice or staff development workshops. Regardless of their labels, all have the common characteristic of engaging adults for a temporary period in a setting somewhat removed from the normal full-time responsibilities of professionals' environment. The purpose of this volume is to provide insights to persons who are now, or may in the future be, responsible for developing and managing short-term learning experiences. It should also be of interest to persons who are participants in such training programs.

The authors of this volume have a concern for the improvement of inservice education and hope that new awareness of problems of adult learning can result in the delivery of better instructional programs at all levels. It is to these ends that this volume is dedicated. It offers the perspective of program designers, instructors, evaluators, and administrators who have

worked together in the institutes which form the data base for the recommendations made here.

The experiences from which these data were drawn are specific to a federal program, the Teacher Corps. The experiences and research data in this volume result from the authors' involvement in three Corpsmember Training Institutes (CMTIs) and two Pilot Trainer Workshops (PTWs). A word of explanation is required on these two short-term training programs. The Corpsmember Training Institutes provided three- to four-week training experiences for approximately 300 preservice teacher Interns at the beginning of their two-year Teacher Corps internship. Team Leaders (experienced teachers relieved of their classroom responsibilities to work with Interns over the two-year period) also attended the institutes. The first CMTI was held in Richmond, Virginia, in 1975; the second in Tallahassee, Florida, in 1976; and the third in San Diego, California, in 1977. The two Pilot Trainer Workshops were outgrowths of the CMTIs and were designed to provide a nine-day training effort for teachers, principals, and college personnel associated with Teacher Corps projects in two of the Teacher Corps regional networks. The PTWs were both held in the summer of 1977, one in Baltimore, Maryland, and the second in Austin, Texas. The PTWs, like the CMTIs, dealt with organizational theory, with community-based education, and with the nature of change. The authors and contributors bring to the publication a range of individual experiences related to short-term learning activities, but all shared in one or more of the CMTIs or PTWs.

A brief history of the background and organizational methods of Teacher Corps is necessary to understand the implications of the data derived from these institutes. Resources to support institutes are seldom available in comparable scale, and on-site documentation is rarely as complete as it was for these institutes.* For these reasons, the data derived speak to

*See the References at the end of this chapter for published studies on the CMTIs and PTWs.

a wide range of issues related to adult learning in short-duration training and validate some of the previous research dealing with the organizational concept of temporary systems.

Enacted as part of the Higher Education Act, the Teacher Corps became operational in 1966 under the U.S. Office of Education, Department of Health, Education and Welfare, for the purpose of providing specialized training for teachers of children who live in low-income areas; to improve educational opportunities for students in such areas; and to improve teacher education, staff utilization, and collaborative processes in universities, schools, and the communities of which the schools are a part. A change in legislation in 1975 gave to Teacher Corps a demonstration mandate and the program stresses documentation, demonstration, and institutionalization of improved educational practices.

From its inception, the Teacher Corps has organized its Corpsmembers—those who receive training—into teams consisting of Interns and the Team Leader, an experienced teacher charged with the responsibility of providing linkage among all parties in the project. This Team Leader works with school staff and administration, members of the local community, and the faculty of the local university or college with which the project is associated to assure coordination of the needed training program of the Interns with those of the represented agencies. The Intern, or trainee, is a college graduate without previous teaching experience who works toward initial teacher certification during the two-year training period.

In attempting to exert their impact upon their local settings, in the past, many Corpsmembers tended to isolate themselves from the regular teachers and become ineffectual because of their lack of understanding of the dynamics of organizational behavior. In recognizing the fact that Corpsmembers failed to understand the school as an organization, the Teacher Corps conceived the idea of training in the areas of organizational theory and the dynamics of change. Moreover, the Teacher Corps also shifted from a focus on preservice training of a large

number of Interns to only four per project, and Interns no longer enjoyed the support of a large number of colleagues in training as they had in the earlier Teacher Corps. Under the new arrangement, the five Corpsmembers (the Team Leader and four Interns) felt somewhat isolated.

In addition to training in the areas of organizational theory, CMTI participants were to be exposed to cognitive aspects of education that is multicultural as well as concepts related to community-based education. Team Leaders and Interns from widely scattered local projects needed a sense of identity with a national program—an esprit de corps—achieved by the assemblage of the total group. The participants, it was hoped, would be enriched by a first-hand multicultural living and learning experience.

The concept of the Corpsmember Training Institute and the Pilot Trainer Workshops was William L. Smith's recognition of the need to address these factors. As the Director of the Teacher Corps, Smith was anxious that Corpsmembers understand schools as social organizations and be exposed to the content of organizational theory and the dynamics of change. Perhaps the CMTIs and PTWs have made a change in teacher education that has implications beyond the participants in the short-term institutes described herein.

G. Thomas Fox, Theodore E. Andrews, Brenda L. Bryant, and W. Robert Houston were involved in the evaluation of the programs described in this volume. Others who are contributors to data reported—Roy Edelfelt, Ron Corwin, Bruce Joyce, and Jack Gant—were involved as instructional designers of CMTIs, as was Roger S. Pankratz. Floyd T. Waterman directed the contract, which was let by the U.S. Office of Education, to design and develop and to provide logistics and support in the implementation of developmental training activities of the Teacher Corps. The authors, as well as those persons interviewed in Chapter 3, were asked to synthesize what they learned and to think beyond their institute experience for this volume. Research data relating to some of the

workshops sponsored by the Teacher Corps are included as an appendix. Data published on the CMTIs and PTWs are listed in the following section of references.

REFERENCES

1. Fox, G. Thomas, Jr., Director, and the CMTI Impact Study Team. *Descriptions and Interpretations: 1975 CMTI Impact Study*. Madison, Wis.: September, 1976.
2. ———. *Evaluating Teacher Education: 1975 CMTI Impact Study*. Ibid.
3. ———. *Methodology: 1975 CMTI Impact Study*. Ibid.
4. ———. *Recommendations: 1975 CMTI Impact Study*. Ibid.
5. ———. *Survey Results: 1975 CMTI Impact Study*. Ibid.
6. Houston, W. Robert, Theodore E. Andrews, and Brenda L. Bryant. *CMTI 1976: Synthesis and Analysis of Data*. Omaha, Nebr.: Center for Urban Education, the University of Nebraska at Omaha, January 15, 1977.
7. ———. *CMTI 1976: Synthesis and Analysis of Data, A Summary*. Ibid.
8. Andrews, Theodore E., W. Robert Houston, and Brenda L. Bryant. *CMTI 1977: Description of CMTI*. Ibid., February, 1978.
9. Houston, W. Robert, Theordore E. Andrews, and Brenda L. Bryant. *CMTI 1977: Synthesis and Analysis of Data*. Ibid., March, 1978.
10. Bryant, Brenda L., W. Robert Houston, and Theodore E. Andrews. *Engaging in the Study of Organizations: A Temporary Systems Approach to the Description and Analysis of Teacher Corps' Pilot Trainer Workshops*. Ibid., February, 1978.

Chapter 2

THE ADMINISTRATION OF SHORT-TERM INSTRUCTIONAL PROGRAMS

• *Floyd T. Waterman*

A principal is concerned about the social climate in her school of sixty-five staff members. A large industrial firm wants to plan a professional retreat for its eight psychologists and two organizational development specialists. A college department of guidance is planning a workshop for high school guidance counselors. Whether you are the principal, a professional staff member of a firm or college department, or a participant in a short-term instructional program, you must attend to the purposes (objectives) of your training and the social system and training environment in which your training takes place. Such administrative and logistical concerns are often lightly considered.

It is often said that administrators need to focus upon "important issues," and that details should be delegated to others. As true as that statement may be, logistical details can do much to establish the atmosphere and, consequently, the effectiveness of a short-term training program. Logistics grow out of the original goals and objectives of the training itself

and decisions are influenced by those objectives. The logistics with which we shall deal in this chapter—budget, physical facilities, housing, support services, counseling, documentation and evaluation, the social system, and interagency coordination—should be established with firm instructional objectives in mind, since the morale of all those involved is directly consequent upon the ambience created by carefully controlled logistical details.

As an administrator, I have been greatly influenced and helped by the concept of temporary systems in carrying out short-term instructional programs. Though not widely used or understood, the elements of temporary systems theory have always been present in the operation of short-term training programs. The temporary systems concept* was useful in both the administration and the instructional design of the CMTIs. Indeed, the evaluation of both PTWs was designed around the phases of planning, building, operating, and closing; more detailed exploration of the temporary systems theory is discussed in Chapter 5 by Brenda Bryant and W. Robert Houston.

The experiences upon which my recommendations are made grow out of administering the three CMTIs and the two PTWs, which were all part of the Developmental Training Activities contract awarded by the U.S. Office of Education to the Center for Urban Education of the University of Nebraska at Omaha. The amount of preplanning and set-up time required to build an effective short-term or temporary system is often surprising—and frequently overwhelming—yet thorough preparation has paid handsome dividends.

*The concept of laboratory learning and temporary systems dates back to the work of Matthew B. Miles, "The T-Group and the Classroom," in *T-Group Theory and Laboratory Method Innovation in Re-Education*, edited by Leland P. Bradford, Jack R. Gibb, and Kenneth D. Benney (New York: Wiley, 1964), pp. 452-76; see also *Temporary Systems* by Jack Gant, Oron South, and John H. Hansen (Tallahassee, Florida: published by the authors, 1977).

BUDGETARY CONSIDERATIONS

Budget is both a constraining and a driving force in planning any instructional program, but fiscal considerations are especially important to institutes or short-term training programs. For example, it may often be necessary in the temporary system to plan for and to provide some items in greater quantities than might be the case in more permanent systems or continuing activities. Thus, programs such as the nine-day PTWs require more copies of reference books relative to numbers enrolled than do three- or four-week programs repeated at regular intervals.

Institute budgets must provide for pre-institute planning. The design of the training program must take cognizance of the people for whom it is designed and thus involvement of such persons in the design is important. The CMTIs and PTWs were planned with maximum input and suggestions from local Teacher Corps project personnel. Only in this way can the planners be assured that the program and training developed will meet the needs of persons for whom it is designed. However, the team that actually designs the institute must be a relatively small group that can take input and suggestions from a variety of sources and form a workable design that takes full cognizance of that input as well as of the objectives of the program. Thus, budget must provide for travel and expenses of the larger input groups and of the smaller, more work-oriented design group. These budget items may often be overlooked by those developing institutes or short-term training, but my experience suggests that money expended upon participant and constituent input and suggestions helps build understanding of the program objectives and develops a broader sense of ownership in the program. Some early meetings should provide face-to-face interaction between designer and local school (or project) staff. While the design group can use the mails and conference telephone calls to complete the group's design tasks at later meetings, during the testing/trust-building phases of the planning, personal

face-to-face interaction is critical to the success of the program.

Planning costs, then, represent an important category of the budget. Other aspects of institute budgets include the following:

- physical facilities,
- instructional staff,
- consumable supplies and materials,
- food and housing,
- transportation.

While many of the planning costs mentioned earlier include travel and transportation, there are other aspects of transportation such as the basic cost of getting all participants and staff to the instructional site.

The factor of size alone (each CMTI had over 250 learners) created special budgetary concerns which may not be problems in smaller instructional programs. However, all programs, regardless of their size, will be plagued with concerns about inadequate funds and few programs have ideal budgets. My experience was no different in that respect. The chief administrative officer must resolve conflicts related to the expenditure of funds and the relative importance of certain features of the budget. Earlier, I mentioned that it might be necessary to purchase more copies of reference books in temporary systems than would be purchased for permanent instructional programs. Consumable supplies and materials are also items that are important in short-term instructional programs. Certainly the budget for such items as newsprint, colored marking pens, masking tape, and items that can be used by instructors to create and extend their own environment should not be cut. Adequate photocopying service is also important and it too is an item in the budget that should not be viewed as an area for economy measures. Because of the relationship of food to morale, I feel that it is very important to provide sufficient funds to see that meals are satisfactory to the participants. I believe that the chief administrative officer

must occasionally force a re-examination of priorities if funds become short and decisions are required about cutting areas of expenditure. I have already indicated my priorities would lean toward more generous purchases of supplies that would assist instructors in making their own learning materials if need be. The importance of budget as a logistical concern cannot be underestimated in administering instructional programs like those described here.

PHYSICAL FACILITIES AND SUPPORT SERVICES

Activities such as faculty retreats, which are held for short periods of time, often foster an informal, home atmosphere conducive to cooperative planning and gaining consensus on issues and ideas which motivate the instructional program. Institutes, on the other hand, promote deliberate efforts to instruct, and expect cognitive as well as affective gains. This distinction in purpose must be kept in mind in attempting to choose a location with appropriate physical facilities for staff development activities. Both the size of the participant and resident faculty populations and the duration of the training program must be considered when searching for an instructional site. Adequate provision for on-site staff preparation and clean-up activities at the end of the training adds to each time period. Creating a sense of community and an appropriate learning climate were also important priorities for both staff and students. Clearly, the selection of a site for a CMTI or similar activities must take all these factors into account.

Several factors should govern the selection of the site for the short-term training program. Certainly training purposes should guide the type of site selected. Whether the instructional site is across the city for two all-day sessions, or participants stay over one or more nights, the purposes of the program bear upon the site selected. When building a sense of community, and when the participants are remaining overnight, a fair degree of isolation is desirable in the site. The site should not be one that forces the program to compete with

commercial entertainment, cultural attractions, or the natural features that would "draw" the attention and interest of participants away from the program.

Some degree of isolation was necessary for the CMTI and PTW sites; nonetheless, the site was required to provide for city bus lines or other means by which to "withdraw" from the group for short periods of time. Shopping areas that have notions, drugs, and snack facilities are helpful near the instructional site. There is a need to maintain a balance between sufficient isolation to develop a sense of community, providing needed conveniences, yet not distracting from the instructional program.

Not every program will be faced with problems of air transportation, and this may not be a concern to some program designers and administrators, but proximity of an airport with sufficient flights to accommodate the CMTIs and PTWs was an additional factor in site selection. Whether the site is in the same city where participants usually work, in a distant city, or several blocks from the normal work site, good medical services as well as other support services (e.g., air freight and duplication) should be nearby. The availability of emergency medical facilities and personnel is important. Participants, too, should be relieved of the dangers of sudden financial drains caused by inadequate insurance coverage and, in the case of the CMTIs and PTWs, additional insurance was necessary for participants.

Further, the institute site should not be remote from sales and service representatives of firms supplying photocopying services. During the 1975 CMTI, the copying machine actually underwent a full year's wear in two weeks, and it became necessary to alert regional sales and service representatives in order to improve the repair response time. Had regional representatives been located in some distant city or had the staff of repairmen been too small (as in some more isolated cities), the required services could not have been obtained. Moreover, it is important in site selection to look at factors

such as the timing and availability of services. CMTI and PTW were not 9:00 a.m. to 5:00 p.m. operations; they required duplicating services late into the night, and even secretarial service had to be available at other than normal "business hours."

INSTRUCTIONAL CONSIDERATIONS

In addition to external factors of location, the site selected should also offer appropriate facilities. For example, an institute like a CMTI or PTW requires that meeting space be available all day every day (and many evenings as well). That is, instructional areas should be exclusively available for the entire length of the instructional program. That may mean (as it did for the CMTIs and PTWs) "carving out" some areas from large student lounges or subdividing large meeting rooms by rearranging moveable furniture for adequate use of space. Institutes cannot schedule around other regular users of facilities, since such activities cannot detail every minute in advance. There should be enough flexibility at the facility to allow for some spontaneous decisions as part of the instructional program.

It is also important to know the formal and informal structure of the organization from which the facilities are rented. It is important for the institute administrator to know who has influence and power in that organization so it is possible to get results during periods of stress or emergency. Conference centers, hotels, and colleges or universities are not always sensitive to the program needs of short-term instructional activities. Business people often rent conference facilities not designed for interactivity and conference centers are often more accustomed to dealing with less active programs where time schedules are rather fixed. Certainly the flexible nature of CMTI—combined with the total-community living and learning environment—makes it a complex program that requires greater flexibility than facilities are accustomed to granting. There are, however, some inservice activities that may merely require two lecture halls and appropriate num-

bers of dormitory rooms. The program, again, dictates the type of facilities required and the scheduling of those facilities. Hence, it is important to know the organizational structure of the renting agency and how to obtain cooperation effectively, since many of the persons encountered at the first level of contact are unaccustomed to dealing with anything out of the routine.

At the first two CMTI sites the instructional facilities were somewhat removed from the institute's living quarters, and recreational areas were somewhat removed from both living and instructional areas. Such distances can create problems, especially when factors of climate are involved. A shuttle bus system between recreational, living, and instructional areas was established at both of the first two CMTI sites because of the multiple inconveniences of distance and weather.

Group size and the desire for group interaction can also create problems at sites where formal lecture areas predominate. The instructional staff which will use the instructional facilities can be particularly sensitive to potential problems of interactive instruction and should be involved in the selection and review of institute sites to whatever extent this is feasible.

HOUSING CONSIDERATIONS

The housing arrangements for staff and participants should be designed to facilitate the type of informal interaction desired. In the first CMTI, one of the two instructional teams felt that more social involvement would enhance instruction, while the other felt it was important to have some isolation from the instructional setting. The first group stayed in the dormitory, while the second stayed in a nearby hotel. In an effort to solve problems of social distance, the staff and participants were housed together in dormitories at the two subsequent CMTIs.

However, both participants and instructors in a short-term staff development activity should be prepared in advance if they are to be housed in a college dormitory. There are certain

adjustments required of adults in settings they might not have experienced since college days. Bath facilities, telephone services, lighting, study areas, and social interaction are all potential adjustment problems.

Another adjustment for participants relates to college dormitory food. CMTI menus were upgraded from the fare customarily offered at the rented sites. The extra cost of an "improved menu" has proved worthwhile, since it improves morale and compensates for rigid meal schedules. Whenever possible, arrangements have been made for a separate institute dining room or serving area in order to create a sense of community for faculty and participants. Since multicultural concerns were part of the educational objectives of the CMTIs, separate eating facilities also made it possible to negotiate some ethnic dishes and to provide the experience of learning about different cultures via the palate.

SUPPORT SERVICES FOR INSTRUCTION

The CMTIs have assembled faculties with diverse experiences and backgrounds, and provided them with a certain amount of instructional freedom. The risk involved with this strategy is that each staff member will bring along his or her own favorite instructional materials to be duplicated and used with participants. Such materials are often packed in the instructor's suitcase and do not surface until the evening before the instructor plans to use them. That creates a heavy last-minute demand for duplicating facilities which are within the budgetary grasp of the program and which can be provided rapidly. The demand for materials to be photocopied at the last minute was beyond belief at all three CMTIs. Yet the author is convinced that, while some such materials may be of marginal value, the nature of the temporary system is such that the problem of massive on-site duplication needs cannot be avoided, even through advance planning. The only solution to this problem is to provide expeditious photocopying services on site and to try to establish an orderly procedure for receiv-

ing and distributing duplicated materials. By the same token, there is sometimes a need for the administrator to take a firm stand and to curtail some duplicating in order to avoid an overload of materials that are not really needed. Careful coordination between instructional staff on site and the duplication support team can help to avoid some delays and confusion, yet the purchasing and budget allocations for duplication must necessarily be flexible and more generous than one would allow in a permanent system.

The writer's experience has shown that materials duplicated in the home office (where quantity rates are available) are less expensive than on-site duplication, even including shipping charges. It is therefore wise to have instructional designers prepare as much material as possible in advance, so it can be duplicated and packed for shipment before the institute. Such advance planning will save both time and money, and designers should be encouraged to plan adequately for instructional materials.

Another crucial on-site service is typing of various kinds of materials. There should be enough fast and accurate typists available at convenient times to meet the needs of the program. It may be necessary to schedule duplication and typing services for the late evenings, so that instructors can cover their last-minute needs.

Next, instructional supplies must be ordered in generous quantities. The nature of a temporary system is such that time is a key ingredient; while one copy of a reserved book would be sufficient for a semester-long college course, eight or ten might be required in a short-term instructional program. Some kind of specialized reference library is also essential, and can be an excellent resource center to help broaden participants' perspectives. Participants can examine such materials and books and identify materials they may wish to order for use in their home settings.

Instructional materials—both those used in direct instruction and those available in the instructional resource center—

should be catalogued and lists should be duplicated in sufficient quantities so that all interested persons can have copies. In addition, it is particularly important that evaluators and documentors have available to them copies of all materials used in the program, whether these materials are used with one or two groups or with the entire learner population.

If audiovisual services are required, there should be a centrally coordianted center for overhead projectors, filmstrips, video-tape recorders, motion picture projectors, and both conventional and cassette-tape type recorders. The interactive nature of short-term instruction often dictates the use of video-taped sessions which are recorded during an instructional setting and played back for analysis. Again, more VTRs might be required than the host site would ordinarily have available. This should be explored in the host city.

Fianlly, an orderly system must be established for the purchase, distribution, and use of consumable supplies such as newsprint, chalk, markers, paper supplies, and the like. Some type of request system should be established, and purchases should exceed anticipated needs.

COUNSELING SUPPORT

Another type of support service often overlooked in short-term instruction is that provided by a professional staff counselor. That person should be able to mix with the faculty and staff, as well as with the participants. A counselor who is able to develop the trust of all parties and to build relationships that foster communication and openness will be busy. Whenever large groups are brought together for a period of up to a month, the pressures of absence from home and involvement in a complex instructional program are inevitable. The counselor should meet with the administrative council, with student input groups, and with instructors so that he knows what is going on and can anticipate possible pressure areas. He or she should, of course, be familiar with nearby medical and mental health facilities.

DOCUMENTATION AND EVALUATION

Still another, albeit less obvious, support service is documentation and evaluation. Workshop designers should be clear about their purposes for documentation and evaluation. Sometimes the major purpose of an evaluation is to determine whether learning has taken place and to what extent the workshop instructional objectives were achieved. There are social, affective domain objectives which should be considered in the evaluations as well. Administrative decisions as to whether an activity is to be repeated can be supported or undergirded with an effective evaluation and documentation effort. Careful documentation is important in providing data for future replication of a workshop. In an effort to have an early definition of the evaluation and/or documentation activities, the administrators and instructional designers should meet with evaluators as soon as initial planning has begun. Evaluation personnel should be involved early with the instructional team.

Although instructors and instructional designers may be threatened by the presence of evaluators and documentors, they are essential to the success of any program. The administrative team must support such persons and assist them in carrying out their responsibilities. It is important for the administration to protect the role of the evaluators and to bring instructional and evaluation personnel together to settle questions of agenda, work space, and access to participants for data collection.

THE SOCIAL SYSTEM

Regardless of the instructional objectives of the training program, the social system (i.e., living conditions, recreation, and social activities for instructors and participants) must be a concern of the program designers. Even such a simple thing as formal or informal dress norms should be considered. Whether the instructors are informal in their presentations and whether they are on a first-name basis with participants are also part of

the social system that must be considered. For purposes of data base, a description of the social system in the CMTIs follows.

The multicultural setting of the living-learning environment has some distinct and unique advantages for both staff and participants in a short-term training program such as the CMTI. Both staff and participants at the CMTIs have enjoyed living and working in such a milieu. Establishing such a milieu requires a deliberate effort to find persons with the needed skills who represent different cultures and geographic regions. The truly multicultural staffs of the CMTIs and PTWs were reinforced by multicultural learner populations, and thus Interns and Team Leaders were greatly enriched by experience with their peers.

Other aspects of the social system are worth examining. Federal funds could not be allocated for recreation at the CMTIs. Hence, it was necessary to utilize community resources and to have participants make financial contributions for picnics and social functions held at the CMTIs. The participants were very cooperative in volunteering time, money, and energy to such activities. Indeed, the wisdom of having participant input groups was validated through the establishment of a Living Council, which was made up of elected representatives of each subgrouping or "cluster." That council dealt with such problems as living conditions, leisure time, housing, recreational facilities and needs, social activities, and internal communications. They provided input and suggestions for a CMTI daily newspaper and interacted with the counselor, administrative team members, and each other.

A second governance group, the Learning Council, was concerned with the nature of instruction. Through that group, representatives of the Team Leaders and Interns were invited to meet with Cluster Leaders, who worked with the instructional designers to manage instruction.

An Executive Council consisted of the administrative team, the evaluation team, and instructional and management lead-

ers, as well as the USOE Project Monitor and others who joined the group as they were needed. That council dealt with overall concerns and insured that the CMTI operated in a smooth, efficient manner. At times, items from either the Learning or Living Council were referred to the Executive Council, which reacted and reported back to the other councils.

The governance structure used at the CMTIs might appear to be cumbersome, yet it proved to be a valuable tool of communication and a means of forestalling confusion. It provided an orderly pattern through which to resolve conflicts and to head off confusion.

INTERAGENCY INTERACTION

Because of the nature of such activities, the Teacher Corps' CMTI and PTW must have considerable interagency cooperation and interaction. The entire contract for the developmental training activities was funded through the U.S. Office of Education. The Teacher Corps, as the funding agency within USOE, was necessarily involved in developing objectives and policy affecting CMTIs and PTWs. In the second CMTI, for example, it was found advantageous to have the Teacher Corps program officer on site as a Project Monitor. This same Project Monitor was also supportive of and involved in the development of the two Pilot Trainer Workshops. In spite of a grueling travel schedule, this officer visited each of the two PTWs to lend support and encouragement to the staff. The writer was very comfortable with this arrangement. Through the involvement of the Project Monitor the funding agency, Teacher Corps, had first-hand observations of both the needs and problems of the CMTI and the PTWs. Indeed, during the CMTI, the Project Monitor became a part of the Executive Council and participated in decision making during the institute. The Project Monitor was earlier involved in the conceptualizing, planning, and design meetings as well; thus the on-site involvement as part of the

Executive Council was a natural extension of the earlier planning involvement before the CMTIs.

As a member of the faculty of the contracting institution, the author represented the University of Nebraska at Omaha in all matters pertaining to the CMTI. As director of the contract, the author made arrangements with the University for all purchasing for payment of instructors, consultants, and speakers; for transportation; for rental of facilities; and for other logistical necessities. The author was also responsible for making arrangements for academic credit granted to the Team Leaders and Interns. That entailed not only temporary admission to the UNO graduate school, but also the transfer of credits to the home institutions (some 60 different universities) of the Corpsmembers.

Since the CMTIs were not held on the property of the contracting institution, the writer dealt with those responsible for the rented campus facilities for the CMTIs. Thus, the CMTI required the director to interact with Teacher Corps/Washington, the University of Nebraska at Omaha, and the university campus which was rented for the CMTI. Vendors who supplied goods and services for the PTWs and CMTIs represented still another category of organizations with which the institute administrator interfaced. Hence, the writer was constantly interacting with at least four different agencies and/or organizations.

ADMINISTRATIVE IMPLICATIONS

The interagency interaction for the Developmental Training Activities is complex and may seem far removed from the experience of school district or university short-term training programs. What implications, then, do the Developmental Training Activities of the Teacher Corps have for others? First, careful attention to logistics is critical to the success of any instructional program, more especially a temporary system. The personnel selected to handle even the most routine logistical tasks must be able to adjust to change and to respond

quickly to requests. Logistics, to a great extent, determine the success of the program, beginning with those of site selection. Obviously, good logistical planning alone will not create a good instructional program, but poor logistical planning can impede or even destroy an otherwise fine instructional design.

At the first CMTI the instructional leaders were operating almost as separate teams and there was often a lack of communication between those responsible for logistics and the chief administrative officer. These conflicts and communication breakdowns were corrected in the two subsequent CMTIs since there was a clear determination of authority and an effort to integrate instructional components and the staff. Having two almost separate staffs for the two major components was a design that was to cause confusion and create communication barriers. In each of the two succeeding institutes, there was more integration of curriculum content and less stress and confusion in both logistics and instruction.

As more school districts and universities design staff development programs in the "retreat" format, the experience of CMTI becomes all the more important for those with development responsibilities. Administrators and curriculum designers must work together in designing staff development of short-term instructional programs, and must pay more careful attention to logistical concerns as well as to the instructional program. Indeed, logistics and program are part of the total design. Each phase of a temporary system is very important. Unless there is some careful attention to each of these phases (i.e., planning, building, operating, closing, and following up; cf. Grant et al.), the effectiveness of the training will be greatly reduced. Budget building must be closely tied to program design, including the logistics, social system, and operating norms of the training. The administration of such programs must take cognizance of curriculum as well as of the physical facilities, and the staff selection should be done early enough to involve instructors in the establishment of norms which are most appropriate to and supportive of the short-term institutes which are the subject of this volume.

Chapter 3

OUR BEST ADVICE

• *Theodore E. Andrews*

Designing workshops requires specialized skill, and that fact is not widely understood. All teachers and administrators have experience in curriculum design, but that is not the same thing. Experienced and skilled workshop designers know the importance of groupings, instructional settings, the careful use of time, how and why and what norms should be established, what problems to anticipate, and what methods to use to cope with them. Participants (and sometimes even other facilitators) in a well-designed workshop are often misled. Everything looks so easy (a good design principle, by the way) that details are overlooked.

CMTI has provided a proving ground for testing several theories of institute design. A variety of publications exist which describe these theories. However, this volume brings together not only the theories but also an analysis of the data that were collected. While the authors of this volume are cautious in making recommendations, they are excited about the opportunity to bring together a discussion of theoretical approaches and data-collection procedures and findings. This chapter considers the theoretical approaches to workshop design; the following reports on the data.

In order to give readers an understanding of these various perspectives, interviews were held with the five instructional coordinators who had responsibility for the curriculum at the first three CMTIs.

CMTI 1975 — University of Richmond

Two weeks — Study of Organizations
- *Ronald Corwin*, Ohio State University
- *Roy Edelfelt*, National Education Association

Two weeks — Study of Teaching Learning/Schooling
- *Bruce Joyce*, Stanford Research and Development Center

CMTI 1976 — Florida State University

Three weeks — Study of Organizations, Education That Is Multicultural, Teaching and Learning Theories
- *Jack Gant*, Florida State University

CMTI 1977 — San Diego State University

Three weeks — Study of Organizational Concepts, Education That Is Multicultural, Community-Based Education
- *Roger Pankratz*, Western Kentucky University

Each person was interviewed separately and asked to comment on the following six aspects of curriculum management:

- Outcomes
- Content
- Methods
- Instructional Time vs. Leisure Time
- Faculty
- Site Selection

The intention of this chapter is not to report everything that could be said about "outcomes," for example, but rather to share with readers the major points. The comments have been

edited to isolate those areas about which there were concerns or strong feelings expressed.

OUTCOMES

Different programs will have different outcomes. While those interviewed reflected that reality, there was agreement about one major aspect of any program, the need to consider the participant as an individual whatever the content.

Gant, in particular, stressed this point. "Each participant will get something different out of any training experience. Outcomes are personal. Beyond certain givens, individuals should be expected to achieve different results. Sameness should not be enforced. Also, participants should have an opportunity to take some responsibility for their own learning. And whenever appropriate, as was in CMTI, participants should 'live' some of the principles being taught."

Joyce noted, "The major outcome we looked for was to provide a sense of community for the Interns; the content was subordinate to this."

Pankratz added, "Persons attending CMTI come with a certain amount of idealism and self-concerns with respect to their role in a new program and these should be addressed first."

Edelfelt stressed that process needs to be considered when discussing outcomes. "The goal of establishing a community, a temporary society, is a group goal but it influences the climate and experience for the individual."

In different ways, they were all saying that the needs of the participants should be addressed by program designers.

Time

Four of the five interviewed also mentioned lack of planning time as a deterrent in developing a large-scale institute. The very nature of the task—planning a CMTI, a several-week institute for several hundred people—makes it clear why time was mentioned. More importantly, those coordinators interviewed emphasized the importance of *planning time*. And a

correlative conclusion can be drawn: the larger the effort, the greater the amount of time that will be needed.

The "best advice" relates to considerations about how to cut corners to accomplish one's tasks when sufficient planning time does not exist. A dedicated and effective staff should be engaged as soon as possible. Wherever possible, decisions should be delegated down. A tight management plan with rigidly enforced, realistic timelines should be prepared. Even if all of the above are accomplished, much of one's personal time will probably be sacrificed until the institute is over.

Probably the first question one should consider when asked to organize an institute is, "How much planning time exists?"

Role Groups

Another major problem related to offering a program for two different role groups. At CMTI, both Interns and Team Leaders were involved in the training.

At the first CMTI, the two role groups were together for the first week only. The remaining three weeks were offered only to the Interns. Some of the Team Leaders expressed the wish that they could have been involved throughout the program.

During the second CMTI, the two role groups were together most of the time. A small group of Team Leaders expressed concern over this and requested that they be allowed to meet alone. They had one session together and requested no more. Jack Gant noted that, "Designers must be aware that hierarchical role groups in egalitarian normed systems will have inter-role conflict. This is to be expected and should be used as part of the planning process."

At the third CMTI, the Interns and Team Leaders had separate instructional tracks the first week and were together the next two weeks. Again, there was concern that this separation wasn't the best possible design.

Since the instructional coordinators clearly were concerned about the individual, the question of the best design for two different role groups is very real.

The problem may have arisen because of the great difference in status between the two role groups; persons without teaching background were mixed as equals with experienced teachers. While it is true that many programs work well for a mix of role groups, it is even more true that some programs will not work equally as well with different role groups. The instructional coordinators all approached that problem differently, and no single solution appears to have been ideal.

A complicating factor, possibly peculiar to CMTI, was that the Team Leaders and Interns were at the beginning of their Teacher Corps experience. Not only were they in strange environments and filling different roles, but also they had not yet been in those roles long enough to understand clearly what those new roles would be and how they should act (what norms would be acceptable). It is likely that this factor contributed to the problem (or opportunity, as some would say) of planning an institute for two or more role groups.

Edelfelt maintains that major consideration must be given to the ecology of the institute. "In the temporary system we created, we stressed elements of cooperation and collaboration, setting norms that legitimize sharing and learning from each other, and the camaraderie possible in a supportive, cooperative environment." Not only can such norms be effective in a temporary system in lessening problems between role groups, "these same concepts transfer well to the school setting."

Neither the egalitarian norm of CMTI II nor its modification in CMTI III completely eliminated the inter-role conflicts. Inter-role conflict is a normal part of organization behavior; it must be acknowledged, studied, and managed in all organizations of short-term educational training programs.

CONTENT

Two major points were stressed during the discussion about content: trying to do too much, and changing the norms of the institute during the institute.

Trying to Do Too Much

Joyce ("we tried to do twice as much as we should have") and Gant ("there was too much content to be delivered in three weeks") agreed that they had tried to do too much. Gant did add a caveat: "This also had a positive effect in that people worked hard, so it may not have hurt the outcomes." The problem they identified is one common to many teachers, trying to do too much in a given span of time.

If content objectives are precise and clearly stated, then a very tight curriculum design can be developed and the objectives may be met. If, however, the objectives are broad and not clearly stated (and this is probably more often the case), there is a potential danger of constantly adding more and more to the curriculum in order to make sure that all aspects of the objectives will be met. The problem is not really with the content, but with the objectives. Workshop designers should be aware that if their objectives are vague, they may well try to accomplish far more than can reasonably be expected in the time provided.

Norms

Patterns established in any organization quickly become the norms which the participants expect; for example, starting on time (not starting on time), modes of instruction (small groups, lectures), homework, etc. Norms are also established which relate to how the participants interact with each other during instructional time and during leisure time. The examples could go on and on, but in all circumstances individuals develop patterns of acting which quickly become norms.

Understanding the impact of norms on institutes is very important for a designer. For example, great attention needs to be given to the beginning of the institute. That activity should model the norms to be followed throughout the institute. Also, designers should be sensitive to problems that may occur if established norms are changed abruptly.

Changing operating norms during an institute was dis-

cussed by the instructional coordinators. Joyce mentioned this concern: "Changes in norms cause problems." Pankratz also stressed the need for consistency: "Don't alter the mode of instruction abruptly. Transitions should be built in if changes in methodology are used." For example, if the first week consists of four lectures a day with written assignments nightly, a change from lectures and written assignments to days spent in small-group discussion activities during the second week will cause some discomfort. Both weeks might be effective; however, the shift from one instructional pattern to another will be difficult for some participants. It is also true that those preferring the second methodology may find the change refreshing.

Also, changing participants during an institute will probably create some concerns. For example, during the second week of the third CMTI, the clusters were paired for instructional purposes, and the Team Leaders were added to each cluster. Not only had the membership in the individual clusters changed, but the pattern of instruction for the clusters had been altered.

Designers must be sensitive to the dynamics that groups generate once an activity begins. A handy question to ask when a group is not functioning well is, "What changes have occurred?"

METHODS

All of the instructional coordinators endorsed the concept of using small groups (called clusters at CMTI) as the instructional unit. In addition, Corwin and Edelfelt further divided the clusters (40–50 people) into smaller groups of 10–12 people. Within that approach they added a number of specific suggestions about methods:

Corwin: "We tried to blend large groups, middle-sized groups, and small groups in instructional time with about an equal balance between large groups and small groups."

Edelfelt: "I think it's good if you can involve people in simulations that are close to reality."

Joyce: "We believed the typical academic approach would not be too successful."

Gant had a long list:

- "You should begin by determining the unit of planning—in this case the cluster.
- "Then all systems should be designed to support the planning unit/cluster.
- "Media, materials, and resource persons should be selected to support the clusters.
- "The methods that are chosen should model and support the organizational principles being taught.
- "Everyone is a resource to the learning of others.
- "Instruction and learning should be considered a part of the total system both in the learning setting and the living setting.
- "There should be opportunities to share leadership roles and participants should have opportunities to act as leaders."

In addition to the above, Pankratz added: "I feel strongly that well-developed materials should be selected. There is much that is available that can be used. Also, instructional personnel must have ownership of methods and materials if they are to be used effectively. Leaders can only suggest."

Most of the above are not startlingly new ideas. However, they do represent several points of view, namely:

- People will learn more if they identify with a particular group (in CMTI, the cluster).
- All systems should support these small groups.
- Everyone can assume a leadership role.
- Faculty ownership of a design is critical.

INSTRUCTIONAL TIME VS. LEISURE TIME

Workshop designers seldom recognize that participant leisure time is a major part of any design. What participants do

when there is not a classroom acitivity is often overlooked. However, consideration should be given to this element of the design.

Three of the five coordinators supported the idea of blurring the distinctions between instructional time and leisure time. Edelfelt believed that leisure activities had a specific purpose in an institute established to study organizations. "We didn't separate time by those categories. The softball game, for example, was an organizational activity. We tried to erase the line between leisure and work. Movies had both instructional and leisure appropriateness."

Gant reinforced these concepts: "We believe you can establish a norm that instructional and leisure time are not separate. Instruction can be informal and leisure time can be learning time. Evening sessions should be planned. Recreational/social activities should be planned for weekends. A recreation person on the staff is important and space should be provided for socializing. However, the participants must initiate much of the social activity."

The other two coordinators took the opposite view. Pankratz noted that "time must be clearly defined. What time is for what should be stated and known to everyone," and Joyce supported the idea of distinct work and leisure time for both the participants and the faculty.

In this area, the instructional coordinators clearly support two different viewpoints. Both appear to be valid and effective. What may be of most interest is the very idea of tying instructional time into leisure time. Possibilities may vary with the content being offered, but the idea is worth considering. This difference may be in style or it may be in the nature of the learning goals. If the goal is affective as well as cognitive, the first view may be employed.

Finally, the most important point is the fact that all five instructional coordinators recognized that leisure time was part of the overall institute design.

FACULTY

All five coordinators agreed that a faculty should be recruited for a balance of race, sex, age, and experience. In addition, there was unanimity on the need to train faculty who serve in institutes. Corwin recommneded at least one week of training for the faculty of a two-week institute. Gant recommended the same approach in slightly different words: "Training should comprise about one-half as much time as the institute."

Several of the coordinators commented on selection criteria that might be used:

Edelfelt: "We wanted people with different skills and viewpoints. We wanted to avoid prima donnas with large ego needs, and we wanted inventive people with broad experience."

Pankratz: "It is important to select staff members who understand who the client is. You should avoid staff who want to run their own agendas. The kind of person I'm looking for I would call a 'professional.' If they can't buy the philosophy behind the program, they should not take the job. Also, it is very important that the staff be competent in content areas. They can't be trained in content in a short time."

Gant: "You should select staff that will be as compatible as possible and assume that diversity of backgrounds and varying value systems will create some conflict. It is also important to begin building staff cohesiveness and involvement prior to their meeting for the first time. Personal contacts should be made, and you should assume that every faculty member will bring his/her own resources to contribute to the system."

It may be important to point out that Gant assumes that conflict may appear and that it is helpful in building faculty ownership of the institute. Also, in assigning faculty to clusters, Gant recommended using five faculty with each cluster (approximately 60 persons). The assignment of five faculty members to a cluster assures that a majority viewpoint can be negotiated and presented if conflicts occur. Fewer than five

persons permits the possibility of a total split (if there are four or two faculty) or the total isolation of one person (if there are three).

Gant made a particularly important point in conclusion, that the hiring be done by the instructional coordinator. "Otherwise, a basketball team may be hired and then have the game turn out to be football."

SITE SELECTION

Each of the coordinators stated his feelings about picking a site.

Corwin: "Generally, you need space, ecology, rational weather, closeness to cities, and persons experienced at running institutes."

Joyce: "The setting should be tailored to the requirements of the instructional design and the establishment of the living/learning community."

Gant: "The site should be sufficiently removed from distractions that will cause participants to disengage from the institute. It should be close to leisure activities, provide recreational opportunities, have access to needed resources, and be safe."

Pankratz: "The facilities should accommodate the program requirements. Logistics are important."

Gant added one different point. "It is very valuable to have an institute coordinator who has ties within the permanent system where the institute is being held. Such a person can help make that system work if need be."

The clearest message that comes from these comments is the need to pick a site that supports and complements the educational program.

CONCLUSION

The five instructional coordinators have viewed similar responsibilities from different perspectives. In summary, the major points covered were:

Outcomes

- The major focus should be on the individual first.
- Different role groups (as well as different individuals) have different needs, and consideration should be given to this during the design of any learning activity.
- Having adequate time for planning is very important, and if adequate time is not available, special efforts will be necessary.

Content

- Don't try to do too much.
- Don't alter modes of instruction abruptly.

Methods

- Use small groups as instructional units. The size of the instructional group should fit the instructional goals and strategies.
- Faculty and participant ownership of objectives is important.

Instructional Time vs. Leisure Time

- The distinction between instructional time and leisure time can be blurred and made part of the instructional program. Both the scheduled learning sessions and the leisure or unscheduled time are opportunities for learning. The design should capitalize on all of this time for learning.

Faculty

- Balance by race, sex, age, and experience is needed.
- Training for faculty should be provided and should comprise about one-half as much time as the institute.
- Assume that diversity of faculty may cause some conflict and that that is okay.
- Conflicts can be minimized by using faculty teams of five rather than fewer.

Site Selection

- The site should complement the objectives of the instructional program.

In conclusion, the *design* of any workshop is its most important element. That design should totally complement the goals and objectives and should be a reference point for every other aspect of the program.

Chapter 4

INSTITUTE STRATEGIES

• *W. Robert Houston*

Improving institutes and workshops requires not only creative, perceptive, and informed planning and decision-making, as has been described in other chapters of this book, but also consideration of research findings. A corollary commitment of institute designers/implementors is to conduct research so that further progress can be made. This has rarely been done in American education even though short-term instructional experiences are the most prevalent learning experiences for adults. The studies that are summarized in this chapter* reflect a commitment to increase the information of such short-term institutes.

More than twenty-five centuries ago Thales, a Greek scientist, accurately predicted the eclipse of the sun based on data on star, sun, and planet movements gathered during the previous five hundred years. Newton is quoted as having given credit for his discoveries to those preceding him: "If I have seen farther, it is because I have stood on the shoulders of

*The author is indebted to Mrs. Leonore Gutierrez, who completed all the statistical analyses for these studies, and to the other authors of this monograph, who were involved in formulating salient questions for study.

giants." No such data base is currently available on teaching adults. We believe that one should be generated, and that institutes such as CMTI can contribute to this.

The studies reported in this chapter grew out of hypotheses gathered by those who were intimately involved in CMTI and were expressing their hunches about effective workshops. Many of these hypotheses could be tested because of extensive assessment of participants prior to and at the end of CMTI, continual observations of instruction during the institute, and the organization of CMTI around eight clusters that provided built-in variability.

This chapter summarizes selected conclusions related to the studies that were conducted. These conclusions are limited to factors related to participant achievement and institute assessment. They are woven together to portray the results for the person who is designing institutes and workshops and not concerned with details of the studies. These conclusions can be classified as:

- those related to change in achievement, and
- those related to participant assessment of the institute.

Each is explored in the following paragraphs.

The Appendix provides greater detail supporting these conclusions, including statistical analyses. It also includes a section on multicultural education that is not summarized in this chapter. An introduction to the Appendix describes the data collection and analysis strategies used in this study. The major portion of the Appendix is organized around nineteen questions in three parts: participant achievement, multicultural education, and staffing and instructional styles. Rationales for data analysis, study findings, and discussion of each question are also included. Finally, the findings are summarized in the last section of the Appendix.

Achievement

Eleven concepts related to organizational theory were em-

phasized in the institute. To determine achievement on these concepts, a 46-item test was constructed. This instrument was used as both a pre-test and a post-test. Change scores and regressed achievement measures were computed to determine achievement gain during the institute. This procedure, described in the Appendix, yielded one measure of participant achievement. In addition, a 36-item assessment of participants' ability to identify appropriate organizational concepts in the movie *Up the Down Staircase* was administered at the conclusion of instruction. This post-test, referred to as the recognition/application test, was used as the second measure of participant achievement.

CONCLUSION 1

Achievement of a concept is not related to the amount of class time devoted to that concept.

Achievement on each of eleven concepts was measured through pre-, post-, regressed, change, and application/recognition scores. Instructional clusters were observed to determine the extent to which each of the eleven concepts was taught. None of the correlations between the two measures was significant.

Time on task has been found to be related significantly to student achievement in a number of studies of elementary pupils. This does not appear to hold true for adult learners, however. Achievement for adults may involve more complex factors than for children, factors which blur the effects of actual class time devoted to specific concepts. Previous experiences may promote more rapid learning of concepts by some participants. Learning styles may be more fully developed or more rigid in adults. Indeed, adults may have formed learning patterns that rely more on independent efforts and interaction with others than children, thus negating effects of differing amounts of time devoted to concepts. Speculation about the configuration of forces promoting adult achievement and research which explores them are vitally needed, with increas-

ing emphasis being placed on the education of professionals.

CONCLUSION 2

Adults in process-oriented groups achieve more than those in task-oriented groups. Those in groups that are not clearly task- or process-oriented achieve least.

Two of eight clusters of participants were clearly more task-oriented than the others. Achievement was stressed by instructors, objectives were clearly articulated, activities were related to them, schedules were made and adhered to, and participants perceived that concepts were emphasized.*

Two other groups primarily were process-oriented. Group decisioning, while practiced in all clusters, was emphasized. Instructional activities were laced with process tactics. Four other clusters were not clearly either task- or process-oriented. They appeared to have characteristics of both. Analyses of variance and *t*-tests were computed to determine the extent of difference in achievement between these three groups.

The process-oriented group, when compared with the other two groups, achieved the highest post-test scores in 10 of 12 comparisons, the highest change-in-achievement on 9 of 12 scales, and the highest recognition/application achievement on 9 of 12 scales. While not all of these were significant, the pattern of scores and the number of significant comparisons (17 of 72 scales) supported the conclusion stated above. This finding was tempered by the analysis of residuals after the effects of pre-tests were partialed out from post-test standardized scores. The mixed group scored lowest, but the pattern of comparisons between task and process groups was not so evident as that found for direct achievement comparisons.

Both process-oriented and task-oriented groups achieved higher than the mixed group. For post-test scores, the mixed group was lowest on 8 of 12 comparisons, lowest in change on

*This difference in perceived emphasis on content between task-oriented and other groups was statistically significant (see results of question 18 in the Appendix for details).

9 of 12 comparisons, lowest in 8 of 12 regressed gain comparisons, and lowest on the application/recognition test on 5 of 12 comparisons (with 32 of 108 being significant).

Those designing workshops and institutes tend toward either task-orientation or process-orientation in their approach. They support their position with perceptions, personal experiences, and theoretical constructs, but rarely with research.

This study clearly supported the process orientation. Participants in the two process-oriented clusters achieved greater knowledge of institute concepts than either of the other two groups. It also supported a related conclusion: those clusters not clearly either task-oriented or process-oriented achieved least. One might reason that a strong, consistent instructional style, whether task- or process-oriented, is more effective than one that is not clearly distinguishable as either.

The implications of these findings are extremely important. Institute organizers should emphasize process when teaching adults, and not equivocate. If their professional styles are such as to preclude this approach, they should consistently focus on task-orientation to facilitate achievement of their students.

Participant Assessment of Institute

At the conclusion of the institute, participants responded to a series of questions which probed their perception of the effectiveness of the institute. Six variables were embedded in the instrument: participant perception of the effectiveness of

- faculty,
- content studied in the institute,
- organization and management,
- instructional activities,
- multicultural dimensions of the institute, and
- a general rating of institute effectiveness.

CONCLUSION 3

Participants rate the institute higher when they are taught

by a greater number of instructors with previous institute experience.

In the institute, three instructors were assigned to each instructional cluster. In two clusters, all three had previously taught in CMTI; in two clusters, two had previous experience; and in four clusters, only one instructor had participated previously in CMTI. Ratings of the institute by participants in these three groups were compared using analysis of variance and *t*-tests.

The major differences in institute assessment occurred between the group taught by the most experienced staff and the group taught by the least experienced staff. Those taught by the most experienced instructors rated the institute significantly higher than those with the least experienced instructors on four scales:

- general assessment of institute,
- faculty,
- organization of institute, and
- instructional activities.

In selecting instructors for an institute, it appears that their experience with similar institutes is an important consideration. The rationale supporting this is not clear; it may be that previous experience suggests to instructors a wider range of instructional and organizational options. They may have learned what kinds of experiences are more favorably received, thus employing primarily those processes.

CONCLUSION 4

Participants rated the institute higher when more interactive instruction was employed.

Some instructional activities are more direct than others (e.g., lectures or demonstrations by instructors and audiovisual presentations). Other types of activities lend themselves to more open interaction among participants (e.g., discussions, group problem-solving, role playing, or gaming).

Each cluster was observed for approximately 180 four-minute segments during the three-week institute. The number of times direct instructional activities were observed was recorded. Likewise, the number of interactive instructional activities was recorded for each cluster. Clusters were classified as high, moderate, or low direct instruction and high, moderate, or low interactive instruction. Analyses of variance and *t*-tests were calculated to determine if differences were likely to exist among institute ratings by groups based on directness and by groups based on interactiveness.

No differences in institute assessment were found among groups classified according to the amount of direct instruction. Apparently, the number of lectures, audiovisual presentations, and demonstrations is not related to participant perception of the effectiveness of the institute.

Participants assigned to clusters with the greatest amount of interactive instruction, however, rated the institute higher on three scales. These were general assessment of institute, organization, and instructional activities.

Participant assessment of an institute's effectiveness does not appear to be related to the extensiveness to which instructors present information, demonstrate, and use audiovisual materials. Their assessment does, however, seem to be related to the amount of participant interactive activities. The greater the amount of discussion, problem solving, simulations, and gaming, the higher participants rate the institute.

CONCLUSION 5

Participants rate an institute higher when they perceive that greater emphasis is being placed on concepts.

Participants rated each of eleven concepts in terms of their perception of its emphasis in CMTI. The sum of these provided an overall score of participant perception of concept emphasis. This total score was correlated with participant ratings of CMTI. In every instance these correlations were highly significant.

Organizers of institutes who are concerned with participant ratings should consider processes by which participants are made sensitive to the amount of content being included. Apparently participants rate instruction higher when they perceive that specific concepts are being taught and emphasized.

CONCLUSION 6

Participants in task-oriented groups perceive that content is emphasized to a greater extent than those in process-oriented groups.

Two clusters were classified by institute leadership as strikingly task-oriented, two others clearly process-oriented, and four clusters appeared to have characteristics of both. The extent to which each concept was perceived by participants to have been emphasized in CMTI was calculated and a total for all eleven concepts computed. These were compared using analyses of variance and *t*-tests to determine the extent of differences among the three groups (process-oriented, task-oriented, mixed group).

Participants in the most task-oriented group perceived that concepts were emphasized to a greater extent than those in the other two groups in 10 of 12 comparisons. When the task-oriented group was compared with the process-oriented group, 9 of 12 comparisons were statistically significant. These consistent findings support the notion that task-oriented clusters were just that, and that their participants recognized the extensive emphasis being placed on content. Process-oriented clusters were less involved in such concepts, and participants rated them accordingly.

CONCLUSION 7

Participant ratings of an institute are related to their achievement on concepts taught in the institute.

Five measures of achievement were obtained through content tests (pre-test, post-test, change, regressed gain, and recognition/application). Scores on each of these measures were correlated with participant assessment of CMTI on six

dimensions. No correlations between pre-test scores and participant assessment of the institute were significant. Eleven of 24 correlations for post-test, change, regressed gain, and application/recognition tests were significant, however, and these were patterned. Participants who achieved higher scores tended to rate these factors higher:

- faculty,
- instructional activities,
- multicultural, and
- general institute assessment.

Equally interesting are the two scales on which no significant relations were found:

- content of the institute, and
- organization.

The first one particularly would appear to be strongly related with achievement; however, it was not.

This finding tends to support the position of some educators that participant "satisfaction quotients" are valid measures of the effectiveness of an institute. While low, correlations indicated that persons who achieved higher scores rated the institute as being more effective.

IN SUMMARY

The purposes of this study were twofold:

- to provide data on important questions related to designing institutes, and
- to demonstrate a process by which such data are generated.

Conclusions reported herein provide some direction for organizing short-term institutes for adults. They provide tentative hypotheses upon which decisions can be based. They were drawn from the specific needs of those persons concerned with designing CMTI as a short-term learning experience. Further replication of these studies in other settings,

experimental treatment of variables, and consideration of other more detailed study questions would lead to more refined conclusions in which more confidence could be placed. Thus, a major recommendation from this study would encourage such studies.

This study also demonstrated a process which might facilitate the generation of such studies. Most workshops and institutes collect data on student achievement, perception of workshop effectiveness, etc., and these could be used as the basis for analyzing selected study questions. In this study, the persons responsible for various aspects of CMTI generated a series of research questions that were not only important to them, but might be useful to others. The questions were posed without knowledge of results of analyses, and were identified because of their relevancy. Such an approach, which probes a series of questions in various settings and institutes, could lead to more effective institutes and learning experiences for adults.

Hundreds of short-term workshops and institutes are held annually in the United States. Because their major purpose and concern is instruction, research on effective practice typically is neglected. Some are evaluated to meet institutional requirements or personal commitments. Results of such studies tend not to be generalizable because of the idiosyncratic nature of the population, non-standardized and often crude measuring instruments employed, and weak conclusions. They do, however, provide some information that could provide the basis for meta-analysis of findings. Such generalized conclusions, supported by results of naturalistic studies, can suggest hypothesis for further research.

If education is to improve its practice, research must become more than an afterthought. Serious attention must be paid to generating and conducting studies of instruction. More importantly, those designing and conducting such instructional experiences should employ these findings in their efforts.

Chapter 5

EVALUATING TRAINING PROGRAMS

• *Brenda L. Bryant and W. Robert Houston*

Firmly committed to the value and practice of program evaluation, Teacher Corps has historically sponsored comprehensive assessment efforts for its developmental training activities. The Corpsmember Training Institute is no exception. During 1976 and 1977 Andrews-Bryant, Inc. conducted the evaluation of CMTI through a variety of measures including pre-post knowledge testing, collecting opinion data, and monitoring instructional activities. These data were analyzed and reported in a series of publications (see items 6-9 in the reference list at the end of Chapter 1).

In 1977 Teacher Corps also sponsored two pilot programs where CMTI-like concepts and materials were presented to audiences more experienced than the attendees generally present at CMTI. Andrews-Bryant, Inc. was responsible for the evaluation of the Pilot Trainer Workshops (PTWs) and elected to design a unique documentation system to thoroughly describe those programs. Therefore, the evaluation team has chosen from among its varied experiences to report in this document on the use of the temporary systems concepts

as a design framework for data collection using the Pilot Trainer Workshops as a case study.

THE EVALUATION APPROACH

Evaluating training programs for educators is accomplished for one or more of three purposes. First, some programs are evaluated as a *third-party* audit. This occurs when a funding agency contracts with an institution to design and implement an institute, workshop, or training program, and requires an unbiased assessment of the effectiveness of the effort. The evaluator is responsible to the funding agency; reports of such audits are made to that agency and copies are furnished to the institution carrying out the training program.

Secondly, implementors often design their own assessment systems. Some are *formative assessments* whose purpose is to improve the effectiveness of a specific program. These are made available immediately to the management team which modifies program elements on the basis of such feedback.

The third purpose evaluation is *summative assessment* by the program implementors designed to improve future but similar programs. While periodic data collection may occur during the program, its usefulness is to describe the flow of activities, achievements, perceptions, and attitudes; to provide time samples of the program; and to analyze the program at several crucial periods. An end-of-program assessment is always made, while follow-up data collection often occurs. Such data are seldom shared during the targeted program, and often analysis does not begin until after the program is over. Reports are designed for and made available to those persons responsible for developing similar programs in the future. These types of evaluation needs, their purposes, data collection timing, and parties to whom they are accountable are summarized in Table 1.

Programs often integrate the three types of evaluation in practice; however, confusing them conceptually or in terms of their diverse purposes and audiences tends to weaken their effectiveness.

Table 1: Evaluations

Type of evaluation	Purpose	Timing of data collection	Evaluation accountable to:
Third-party audit	Audit extent to which terms of contract are met	During program, at end, follow-up	Funding source
Formative	Improve current program	During program	Program management team
Summative	Improve future programs	During program, at end, follow-up	Program design team

Regardless of the purpose or approach to evaluation employed, programs for increasing the skills of professionals are rarely assessed in such a way that the data provide adequate information on the effectiveness of the program or ways it can be improved. This is due in part to a lack of concern for evaluation or a lack of recognition of the value of such data. For many educators, the stimulation of designing programs is in the development and implementation stages, not evaluation.

If required, an assessment of a program is made. Typically, it is composed of a questionnaire that is completed at the end by participants who indicate how "satisfied" they are with the program. Sometimes, as in college courses, this questionnaire relates almost entirely to professor assessment. In other workshops or programs, a final examination may tap the extent of student learning. In a review of nearly one hundred assessments of short-term programs, we were astonished at the inadequacy of conceptual framework and breadth of analysis reflected in them. The assessment questions and the report (if written at all) reflected no conceptual integrity. There were only lists of questions that seemed to reflect a brief brainstorming session or, more typically, a cut-and-paste from other instruments. In almost all, it was quite evident that assessment had not been carried out with the care and thoughtfulness of other aspects of the program.

The design of an evaluation program must begin with the identification of all parties who will be affected by the evaluation data or who will use data in roles as decision-makers.

Evaluators may be involved in meeting the data needs of learners, trainers, training designers, training contractors, funding agencies, or a combination of the above. Their needs for data may vary greatly, and the evaluator must begin by identifying the client or clients for whom he/she is working. Once the clients are identified, the evaluator asks, "What are the clients' evaluation data needs?" These needs may be specific and known to the client or they may be vague and in need of clarification. Evaluation planning sessions are for the purpose of needs clarification. Table 2 suggests some of the client needs that could be identified during this initial planning phase.

Table 2: Identification of Client Needs

Sample Needs	Learners	Trainers	Training designers	Training contractor	Funding agency
1. How did learners change as a result of the program?					
2. How did learners feel about the program?					
3. Can the program be documented for replication?					
4. What training methods were effective?					
5. What materials were effective?					
6. What were the program's objectives? Were they met? Did they change during the program?					
7. What are the needs of the learners for training?					
8. Are there implications for future training programs?					

Sample Needs	Learners	Trainers	Training designers	Training contractor	Funding agency
9. What did we get for the money?					
10. What were the critical decisions of the training design team? What decisions would they alter in the future?					
11. Were the facilities adequate to support the training design? What are the essential facility specifications?					
12. Sould the program be repeated for other learners?					
13. What combination of skills and expertise is needed by staff who conduct this program? Where are their strengths and weaknesses?					
14. What criteria were used to select participants?					

Of course the list can go on endlessly and question after question can be generated by the client(s). Working with the evaluators, the clients must decide what information they want and what level of effort they will support to do the job. When these initial decisions have been made, the evaluation design process begins. If, on the one hand, the client needs are simple and limited, the design process is equally simple and straightforward. For example, the client may ask, "To what degree did participants achieve the program's instructional objectives?" Given this question to answer, the

evaluator reviews the instructional objectives, determines how each can be measured, selects or creates the assessment instruments, and conducts the evaluation. The process can be completed quite quickly, depending, of course, on the number and types of objectives to be measured.

If, on the other hand, the clients' data needs are complex, requiring examination of most or all of the instructional system, the evaluation design process becomes similarly complex. The evaluator, then, must adopt or create a model for gathering and organizing information in order to ensure thoroughness and consistency in the design.

Those persons who have attended to improving evaluations have focused primarily from the evaluator's perspective rather than from the client's perspective. In their thinking, they have reflected improved data sources and instruments, increased reliability and validity of data, and reporting processes that communicate more effectively. They have not, however, employed systems theory in the design of the evaluation, nor applied such systems theory to short-term and continuing training programs.

One conceptual paradigm that promises the breadth and depth necessary for analyzing training programs is temporary systems theory. All training programs are, in essence, temporary systems. Some are three-week institutes in the summer; others are two-hour after-school meetings; others are once-a-week-for-a-semester courses. Some require participants to leave their homes and jobs for a full-time experience (professional conference, workshop), while others, such as courses or inservice education, are interspersed with other activities. From the designer's viewpoint and the participants' perspective, all are temporary; they have a beginning and an end, and they go through distinguishable stages.

Examining a program from this systems perspective permits evaluators the flexibility for input and adaptation needed as the training program unfolds. It allows them to collect data on changes that occur during the program and it is descriptive in

nature. The model is comprehensive, yet it encourages assessments that are objective and non-judgmental in nature. Because of the generalizability of the model, it can be adapted to the training design for which it is used.

This chapter outlines an evaluation system based on temporary systems theory. The concept of temporary systems is first outlined and discussed, and its use is then illustrated in two ten-day workshops. Finally, as a guide to readers, the basic questions for analysis that were drawn from temporary systems are listed.

TEMPORARY SYSTEMS AS A MODEL FOR EVALUATION

As a model for evaluation, temporary systems concepts provide the elements to be included in a description and analysis of a training program. The guiding questions for the development of the evaluation are: How was the program *planned?* How was it *built?* How was it *operated?* How was it *closed?* How was it *followed up?*

These five questions form the developmental basis for any temporary system. Each program is planned, built or developed, operated, closed, and followed up. Each of these phases is composed of unique areas of concerns. These are discussed in the following paragraphs.

The first phase of the temporary system is *planning*. Planning consists of:

- Goal Setting. Stating outcomes for participants and expectations for the application of their learning once training ends.
- Recruiting and Selecting Participants and Staff. Setting criteria and procedures for the identification and selection of learners and teachers.
- Specifying Norms. Determining the social behaviors that should characterize the temporary system (e.g., openness, egalitarianism).
- Choosing Time and Territory. Selecting the site and scheduling the program.

- Locating and Allocating Resources. Identifying human and material resources available to the system and specifying how they will be employed.
- Macro-designing. Constructing a framework for training with major activities identified.
- Analyzing Constraints. Identifying potential barriers to goal attainment and planning to minimize the constraints.
- Pre-System Communication. Corresponding with staff and participants prior to the training event.

The second phase is *building*. Building consists of:

- Acquaintanceship. Getting to know staff and participants and learning to trust their competence.
- Stating and Redefining Goals. Sharing instructional objectives with participants and encouraging them to modify or add to the list of expected outcomes.
- Redefining Roles. Orienting participants to new roles they may play in the temporary system and to roles they may be expected to play when training has ended.
- Norm Formation. Stating and modeling the system's norms.
- Building the Governance System. Establishing mechanisms to involve participants in decision-making and to resolve problems or address common concerns.
- Identifying and Using Resources. Making known the special resources, skills, and knowledge brought to the program by staff and participants.

The third phase in a temporary system is *operating*, the phase during which the system directs its energy toward goal attainment. The tasks to be performed during operating are:

- Micro-designing. The development of specific activities and session plans by staff and participants.
- Forming and Using Work Groups. Structuring activities so that staff and participants have opportunities for interaction in groups of varying size and composition.

- Managing Conflict. Resolving problems that arise quickly and openly.
- Decision Making. Operating and refining the governance mechanisms.
- Relaxing and Recreation. Taking time to get away from the intense and exhausting work environment.

Closing is the fourth phase of the temporary system. During this phase the tasks of the system are completed and participants prepare for re-entry into their permanent systems. The elements of this phase are:

- Forward Action Planning. Participants engage in exercises to help them transfer their new learnings to the back-home situation.
- Forward Support Planning. Participants identify the resources of the temporary system that will be necessary for them to successfully transfer their learnings to the back-home situation.
- Forward Network Planning. Participants arrange to maintain contacts with others who have been part of the temporary system.
- Planning for Evaluation. Determining how to assess the impact of the temporary system on the permanent system.

The fifth and final phase of the temporary system is *follow-up*, the provision of assistance to participants in their permanent systems. The tasks of this phase are:

- Providing Support. Offering direct or indirect assistance with implementation activities in the permanent system.
- Evaluating. Assessing the impact of the temporary system on learners and on permanent systems.

CASE STUDY: THE PILOT TRAINER WORKSHOPS

In July, 1977, the Teacher Corps, U.S. Office of Education, sponsored two pilot trainer workshops for educators on or-

ganizational theory and practice. Each workshop was a ten-day live-in experience. One was held in Austin, Texas, and was designed by the Texas Teacher Corps Network. The other was held outside Baltimore, Maryland, and was designed by the Mid-Atlantic Teacher Corps Network. While the workshops had common purposes and had access to the same resources, the planners designed experiences and conducted the workshops in rather different ways. With temporary systems as a conceptual base, such diverse approaches could be accommodated in a single, relatively straightforward program assessment. Further, the range of assessment needs expressed by Teacher Corps, networks, designers, and participants could be accommodated.

As a model for training, the temporary systems approach is open and descriptive (as opposed to closed and prescriptive). It assumes a broad base of involvement in the design process and values individualization and alternative strategies for participants to reach both common and differing outcomes. The model focuses on human interaction and collaboration as the ideal approach to learning and to behavior change. This model for designing training programs is most appropriately used where variation in participant outcomes is allowable, encouraged, and valued. For example, a training program which is designed to produce trainees who can type 80 words per minute would probably follow a prescriptive model where a single outcome is expected. But a training program designed to increase parent-teacher interaction may use the temporary systems model that guides participants toward alternative outcomes which have been defined by both trainers and learners.

In designing the evaluation system, the evaluator considers several pertinent questions for each of the five phases of temporary systems.

- What questions must be answered in order to describe and analyze the activities and outcomes of each phase and each task within the phase? Clients and evaluators together are responsible for generating these questions.

- Who should answer each question?
- When (before, during, or after the program) can the questions best be answered?
- How (in what form) should each question be posed and answered?

When these four questions have been answered, the evaluators have completed their evaluation design guide. The design guide shows the phase, task, questions, instrument, source of data, and time for data collection. A sample appears below:

I. Planning (Phase)

A. Setting Goals and Objectives (Task)

Questions	*How answered*	*By Whom*	*When*
1.			
2.			
3.			

In addressing the "how" question, the evaluator designs or selects the appropriate instrumentation. Instruments may include observation forms, interviews, tests, questionnaires, or other data-collection mechanisms. All questions listed in the design guide are grouped and compiled for each audience that is a target of the evaluation. For example, all questions which must be asked of the Training Director are compiled in the director's interview. Or, all questions which ask for demographic information about participants are included in a participant's biography or vita form. Or, all questions which call for opinions of participants are compiled in participants' opinionnaires, sometimes consisting of a pre- and post-opinionnaire. When all questions have been converted to instruments and refined, the instrumentation is ready for testing. Data collectors must rehearse and revise instruments until they agree that the needed data are being elicited by the questions posed on the instruments.

For the Pilot Trainer Workshops 16 instruments were developed. They were:

- Participant Vita. The Participant Vita was administered to all participants shortly after their arrivals at the PTWs. The form requested demographic information and assessments of strengths and weaknesses of the program as initially perceived.
- Staff Vita. The Staff Vita was administered to all instructional staff during the opening data collection session for the PTW. The form requested demographic information and assessments of strengths and weaknesses of the program as initially perceived.
- Pre-Program Reactionnaire. This instrument was administered to all participants along with the Participant Vita. Questions related to participants' expectations for the PTW and answers were recorded on computer answer sheets.
- Network Executive Secretary Interview. The focus of the NES interview was on planning and follow-up for the PTWs. In Texas, the interview was conducted during the PTW, while in Baltimore it was conducted several weeks after the PTW.
- Instructional Coordinator Interview. This interview was conducted during the two PTWs with each of the instructional coordinators and, in Texas, with the co-instructional leader as well. The subject of the interview was the planning, building, and operating of the program.
- Instructional Staff Interview. Each member of the instructional staff was interviewed during the program's second week to obtain information concerning his/her role in planning the PTWs and his/her reactions to the building and operating phases of the program.
- Project Directors' Interview. Project Directors were interviewed in order to determine their roles in planning the PTWs and their expectations concerning follow-up activities. In Baltimore, most Project Directors were present and were interviewed on site. In Texas, Project Directors were contacted by phone.

- Instructional Observations. Conducted each day during the PTWs to describe or rate the following components of instructional sessions: instructional model, affective climate, number of participants involved, how participants are organized, content and skills presented, materials or resources used, decision-making style used, if any (one-person, two-person, polling, voting, consensus), conflict-management style used, if any (competing, accommodating, avoiding, collaborating, compromising).
- Open Observations. Conducted for 20 minutes each day at randomly selected times. The observer wrote his/her impressionistic description of what occurred in the session during that time including roles of participants and staff, affective climate, interactions, quotes, objectives pursued, and other relevant information. The description was intended to capture the tone, content, participants, and processes so that a reader could fully understand what had occurred.
- Anecdotal Log. Maintained daily by each data collector, the log was intended to capture the norms operating in the temporary system. Logs were open-ended and included any information or anecodates the collectors wished to present as descriptive of the system.
- Facilities Description. One data collector at each site prepared a brief description of the living quarters, instructional space, administrative space, and recreational facilities.
- Materials and Consultants. One data collector at each site prepared or obtained a list of materials provided to staff, and a list of materials provided to participants and consultants who presented during the workshops.
- Governance/Management Systems. One data collector at each site described the format and informal decision-making groups and strategies employed by staff or participants.
- Participant Exit Feedback. At the end of the workshops,

all participants were asked to write their opinions of the strengths and weaknesses of the program. The following categories were used to elicit responses: content, governance/management, communications and feedback systems, team composition from local projects, faculty and staff, facilities, and most and least relevant experiences.

- Post-Program Reactionnaire. Along with their Exit Feedback forms, participants were asked to rate their reactions, feelings, and perceptions of the PTW shortly before departing from the site. Answers were recorded on computer answer keys.
- Staff Exit Feedback. Using the same categories as participants (see above) to organize their responses, members of the instructional staff at each site were asked to describe the strengths and weaknesses of the program at the close of the PTW.

The administration of the 16 instruments described was the responsibility of the data collection team at each PTW site. Each team arrived on site two days before the opening of the workshop for training, orientation, and introduction to administrative and instructional personnel. Instruments were reviewed and schedules for each data collector were prepared. The teams practiced using the observation instruments, compared ratings, and came to agreement on the definitions of rating descriptors. Five team members conducted data collection for approximately 100 participants and eight instructors in Baltimore, while a team of four was present in Austin to work with just under 50 participants and six instructors.

The data resulting from the administration of those instruments were reported in a volume entitled *Engaging in the Study of Organizations*.* Data which resulted from a six-

*Brenda Bryant, Robert Houston, and Theodore Andrews, *Engaging in the Study of Organizations: A Temporary Systems Approach to the Description and Analysis of the Teacher Corps' Pilot Trainer Workshops* (Omaha, Nebr.: Center for Urban Education, the University of Nebraska at Omaha, 1978).

month follow-up survey are to be reported in a separate volume.

In these volumes the data are organized by program phase—planning, building, operating, closing, and follow-up. All data relevant to each phase and pertaining to various instruments are drawn together to formulate a description of that phase. An analysis of and recommendations concerning each task within each phase accompany the descriptive material.

CONDUCTING THE EVALUATION

Regardless of the design, evaluators need to give special attention to processes which are used to plan and implement the design. The results of the evaluation are influenced as much by *how* the job is done as by *what* job is done.

Relationship Building

During the program planning stage, training designers must be aware that there will be an external evaluator of their program, and trainers and evaluators must work cooperatively as they reinforce the work of one another. At this stage the training staff and evaluation staff establish a working relationship that has two dimensions. The first dimension of the relationship is collaboration. Evaluators need data from trainers to design their activities. They need to know numbers of participants, program objectives, schedules, and the like. In return, the evaluators share information about the evaluation design and may stimulate training designers with questions or strategies related to evaluation. For example, if an objective of the program is to create an awareness of this or that, the evaluator concerned with documentation or measurement may ask, "How do you expect participants to demonstrate awareness?" This dialogue can help training designers sharpen their ideas while evaluators refine their own instruments and procedures.

The second dimension of the trainer-evaluator relationship is mutual regard for independence of the two teams. Respect for and confidence in one another can be supportive and

helpful, but neither team actually develops ownership for the design of the other. The external evaluator must remain external to (or on the fringe of) the instructional system in order to maintain the necessary degree of objectivity. The training design team may conduct a simultaneous, internal evaluation and these two activities must be kept separate and discrete.

Role Definition

As implied by the above, the planning stage is a time during which the evaluators establish their roles. They are peers of the instructional team and they are data collectors, technicians performing a job. They may also be members of the learning community who live and dine with trainers and participants or they may reside outside the community. The choice must be made on the basis of the design and the distance from or involvement with the community that is optimal. Evaluators also may serve as consultants to the training team. They may be asked to provide oral or written feedback to the instructional staff. In the consulting role the evaluator must negotiate what data will be shared, when, with whom, and in what form. The decision to consult or not to consult should be mutually agreed upon by teams, trainers, and evaluators. Whatever the roles that are established, external evaluators are always outsiders. They are not part of the family feeling that develops among teachers and learners and they must be aware of and able to accept an attitude of distance or even isolation.

Norm Definition

As the evaluators' roles are defined and redefined, evaluators also establish norms for functioning in the system. The norms must be compatible with the norms of the learning community so that the two subsystems do not clash unnecessarily. In evaluating the pilot trainer workshops described previously, critical norms were openness, confidentiality, task orientation, interdependence, and supportiveness. Operating by these norms, all staff have an opportunity to review the evaluation design, to examine the instruments, and to be in-

formed of the evaluators' schedules and activities. Staff can request feedback on their own sessions at any time. All participants are ensured of confidentiality where possible. They are told if names or other identifying data will be reported, to whom they will be reported, and for what purposes. Evaluators or data collectors are task oriented, as are the instructors, and they fulfill their negotiated roles. At the same time, they are dependent upon the instructional system for time on the agenda, to be introduced to participants, to collect data work space, and for access to staff meetings as needed. It is important that these logistical supports be provided to evaluators who, in return, must be willing to support the instructional system and to accommodate to the needs of teachers and learners.

Guidelines

Roles and norms lead to guidelines for data collectors. Guidelines may vary depending on the nature of the evaluation task, but in any case they can help ensure consistency in conduct of the evaluation process. Some guidelines followed by the pilot workshop data collection team were:

- Be as unobtrusive as possible. Enter and leave observation sessions quietly.
- If asked to leave a session, do so. When staff members know this is an option, they will rarely use it.
- Maintain confidentiality. Never discuss any data with a third party without the permission of the data source.
- Take time to explain what you are doing to persons who are interested.
- Refer problems to the evaluation team leader.
- Introduce yourself as a member of the external evaluation team.
- Be on time for interviews and observation sessions.
- Check interview data with the interviewee.
- Be objective. In narrative reports use descriptive language. "Take a photograph" of what you observe.
- Label, date, and file data carefully and immediately.

- Ask for feedback from team members and interviewees.
- Expect some distance or coolness from instructional staff and participants. Seek support from evaluation team members.
- Don't take hearsay and rumors too seriously. It is often other fringe members of the community (outsiders) who are most anxious to explain what is "really" going on.

Reporting the Data

The evaluation program is not complete until the data have been analyzed and reported to the various clients or decision-makers. Client groups may need different data in different forms and the evaluation team must be prepared to report data in a useful and timely fashion. For example, learners in an instructional system may need progress data on their performance while they are engaged in learning. These data may be provided only to learners, may be a part of the internal evaluation system, and may be used then discarded or kept by the learner. On the other hand, chief administrators may need cost data that are not pertinent to anyone else and that can be used for long-range planning.

Data may be reported orally, in writing, or through other visual means. Probably the most timely reports are those given orally while the writing task is in process. Reports may be partial and inconclusive, but decision-makers can begin to examine issues of interest before the final conclusions are drawn.

Written reports may take many forms depending on their purpose and audience. A complete report of all data, findings, conclusions, recommendations, and instruments and procedures used is a document of interest to all clients and to others engaged in evaluation, even though it may be technical and highly detailed. A summary of the complete report is useful for mass distribution to diverse, interested parties. Brief and concise summaries of conclusions and recommendations are often helpful to top administrators who require material they can review quickly without the detail that may be of interest to

others. Finally, if evaluators choose to suggest future directions for evaluation of the clients' training programs or to offer their own opinions, this report should be separate and should clearly indicate that it is not based directly on the data or on the data collection design. If a norm of openness has been established with subjects and clients, it is inappropriate to publish data that were collected without informing concerned parties.

PTW DESIGN GUIDE

The design for evaluating the Pilot Trainer Workshops provides a guide for those planning to use temporary systems—a basis for evaluating courses, programs, inservice experiences, institutes, or workshops. Some of the questions in the design were appropriate only to the PTW. Evaluators may note other questions that are unique to their own programs. This set of questions, drawn from a search of temporary systems literature and the unique characteristics of the PTW, provides a general basis for assessment design.

I. PLANNING

A. Goals and Objectives

Question	*How Answered*	*By Whom*	*When*
1. Who is the design team? Describe.	Interview	Instr. Coordinator	During
2. What are the stated objectives?	Print	Data Collector	During
3. How were they set?	Interview	Instr. Coordinator	During
4. By whom?	Interview	Instr. Coordinator	During
5. When?	Interview	Instr. Coordinator	During
6. Using what input/data?	Interview	Instr. Coordinator	During
7. Are there system or management objectives? What are they?	Interview, Print	Instr. Coordinator, Data Collector	During
8. What are the unstated objectives, if any?	Observation, Interview	Staff, Data Collector	During
9. Did instructors provide an opportunity for participants to participate in instructional planning? How?	Interview	Staff	During

B. Membership Selection

Question	*How Answered*	*By Whom*	*When*
1. Who is on staff?	Demographic Instrument	Staff	Pre
2. How and by whom were they selected?	Interview	Instr. Coordinator	During
3. When?	Interview	Instr. Coordinator	During
4. What were selection criteria?	Interview	Instr. Coordinator	During
5. Why do they think they were selected?	Instrument	Staff	Pre
6. Who employed staff? To whom do they feel responsible?	Instrument	Staff	Pre
7. Who are participants?	Demographic Instrument	Participant	Pre
8. How and by whom were they selected?	Interview	Instr. Coordinator, Project Director	Pre
9. When?	Interview	Instr. Coordinator, Project Director	Pre
10. What were selection criteria?	Interview	Instr. Coordinator, Project Director	Pre
11. Why do they think they were selected?	Instrument	Participant	Pre

C. Norm Specification

1. Did planners specify norms?	Interview	Instr. Coordinator, Planners	During
2. What are they?	Print	Data Collector	During
3. How were they determined?	Interview	Instr. Coordinator	During
4. By Whom?	Interview	Instr. Coordiantor	During
5. What norms were implicit in the planning process?	Print	Data Collector	Pre, During

D. Communication and Feedback Systems

1. What systems were planned?	Interview	Instr. Coordinator	During
2. What are they?	Print, Interview	Instr. Coordinator	During
3. Will temporary system communicate with permanent system? How?	Interview	Instr. Coordinator, Project Directors	During, Pre
4. Have project directors been involved in planning? How?	Interview	Project Directors	During

	Question	How Answered	By Whom	When
E. Time and Territory Choices				
1.	How were number of days and dates established? By whom?	Interview	Network Secretary	During
2.	How was the site selected?	Interview	Network Secretary	During
3.	What criteria were used?	Interview	Network Secretary	During
4.	Who selected the site?	Interview	Network Secretary	During
5.	What facilities are available?	Interview, Observation	Data Collector	During
6.	What supports/services will site provide PTW?	Interview	Instr. Coordinator	During
7.	What link is there between TC/PTW and site?	Interview	Network Secretary	During
F. Resource and Resource Allocation				
1.	What % of budget was expended on staff, materials/supplies, travel site, etc.?	Interview	Network Secretary	During
2.	How were allocation decisions made? By whom?	Interview	Network Secretary	During
3.	What materials were ordered? Supplies? By whom? When?	Interview	Instr. Coordinator	During
4.	What materials, if any, were developed especially for PTW?	Interview	Instr. Coordinator	During
G. Macro Design				
1.	Is there a macro design? What does it contain?	Print	Instr. Coordinator	During
2.	Who prepared the design and when?	Interview	Instr. Coordinator	During
3.	How open is the design for staff and participant input?	Observation	Data Collector	During
H. Constraint Analysis				
1.	What constraints or problems did planning team anticipate and address during planning? What actions were taken?	Interview	Instr. Coordinator, Planners	Pre, During
2.	What problems occurred that were not anticipated? Were they resolved?	Interview	Instr. Coordinator	Post
I. Pre-System Communication				
1.	What information was sent to participants? When?	Interview, Print	Instr. Coordinator	Pre

Question	*How Answered*	*By Whom*	*When*
2. What data were received from participants? When?	Interview, Print	Instr. Coordinator	Pre
3. Was the data used? For what?	Interview	Instr. Coordinator	Pre
4. What information was sent to staff? When?	Interview	Instr. Coordinator	Pre
5. What data were received from staff? When?	Interview	Instr. Coordinator	Pre
6. What norms are implied in the communications?	Observation	Data Collector	During
7. What is the content of the communication?	Observation	Data Collector	Pre
II. BUILDING			
A. Acquaintanceship			
1. What strategies are used to bring staff "on board"?	Interview	Staff, Instr. Coordinator	During
2. How, when, where are staff trained?	Interview	Instr. Coordinator	During
3. How are participants brought into the system?	Observation	Data Collector	During Days 1-2
B. Resources			
1. What are the instructional resources (prescribed)?	Observation	Data Collector	During
2. What are human resources (consultants)?	Observation	Data Collector	During
3. How are resources distributed to staff and participants?	Observation	Data Collector	During
4. Are resources (skills) of participants identified and utilized?	Interview	Staff	During
5. What material resources do instructional staff bring and use?	Interview	Staff	During
C. Goal Redefinition			
1. Are objectives shared with participants? How and when?	Interview	Staff	During
2. Are objectives changed? How, why, by whom, when?	Observation, Interview	Data Collector, Staff	During (Post)
D. Role Definition			
1. What are expectations of participants	Questionnaire	Participants	Pre-Post

Question	How Answered	By Whom	When
2. How do givens of the instructional design affect role definition?	Observation	Data Collector	During
3. What are the roles played by various system members?	Observation	Data Collector	During
E. Norm Formation			
1. What norms get established? How?	Observation	Data Collector	During
F. Governance/Management Structure			
1. What are governance systems?	Observation	Data Collector	During
2. How are they developed?	Observation	Data Collector	During
3. How do participants and staff get involved in decision-making?	Observation, Interview	Data Collector, Staff, Participant	During
III. OPERATING			
A. Micro Designs			
1. Who is responsible for daily session designs? How are they prepared?	Interview	Staff	During
2. What are the designs?	Print, Observation, Interview	Staff, Data Collector	During
3. What instructional techniques are used? What activities?	Observation	Data Collector	During
4. How much time is spent on achieving each objective? Other unstated objectives?	Observation, Questionnaire	Data Collector, Staff	During Post
5. How do participants perceive the appropriateness of the objectives and the instruction?	Questionnaire	Participant	Post
6. What recommendations do staff have concerning instructional design?	Questionnaire	Staff	Post
B. Work Groups			
1. What are work groups? Size? Composition?	Interview, Observation	Staff, Data Collector	During
2. How do work groups get formed? Using what criteria?	Interview	Staff, Instr. Coordinator	During

Question	How Answered	By Whom	When
3. Do they change or remain constant? If they change, when and how?	Interview, Observation	Staff, Data Collector	During
4. How much time is spent in home teams?	Interview, Observation	Staff, Data Collector	During
5. How does home team get built, how does it function during the PTW? Time? Activities	Interview, Observation	Staff, Data Collector, Participants	During
C. Conflict			
1. What are subjects of conflict between role groups or work groups and between which does conflict occur?	Observation	Data Collector	During
2. How is conflict resolved?	Observation	Data Collector	During
D. Recreation			
1. How much time is scheduled for recreation?	Print	Data Collector	During
2. What facilities are available? Are they used?	Observation	Data Collector	During
3. How are social activities planned or are they left to participants?	Observation	Data Collector	During
IV. CLOSING			
A. Forward Action Planning			
1. What plans do participants develop for application back home?	Observation, Questionnaire	Data Collector, Participant	During, Post
2. How do teams plan to function back home?	Questionnaire	Participant	Post
B. Forward Support Planning			
1. Has the permanent system planned for using the team attending the PTW? If so, how?	Interview	Project Directors	Post
2. Is the project prepared to use the information and skill brought back by the project team?	Interview	Project Directors	Post

C. Forward Network Planning

Question	*How Answered*	*By Whom*	*When*
1. Will teams have access to one another after the PTW? How? When?	Interview	Network Secretary, Participant	Post
2. Is this access desirable?	Questionnaire	Participant	Post

D. Evaluation

1. What pre-, mid-, post-PTW data are collected by the network from staff or participants?	Interview	Instr. Coordinator	Post
2. What data will be collected as follow-up?	Interview	Instr. Coordinator	Post

V. FOLLOWING-UP

A. Network

1. Does the Network plan to follow up on the PTWs? How?	Interview	Network Secretary	During, Post
2. Who is involved in the follow-up plan?	Interview	Network Secretary	During, Post

B. Project

1. Does the local project follow up on the PTW? How?	Interview	Project Director	Post, Follow-up
2. How do participants and teams apply what they learned to the back-home situation?	Questionnaire	Participant	Post, Follow-up

SUMMARY

The evaluator's task is to design, conduct, and report evaluation data to decision-makers. Temporary systems concepts provide a framework for the assessment of short-term educational programs when the client requires a comprehensive descriptive report of the training process. The evaluation of Teacher Corps' Pilot Trainer Workshops provides a model for others who are concerned about process evaluation and the analysis and reporting of descriptive data.

REFERENCES

Bernoff, R., E. Girault, and M. B. Rowe. *The Application of Temporary Systems Concepts to Effective Planning and Management of Short-Term Educational Programs*. National Science Foundation, 1973.

Bryant, B., R. Houston, and T. Andrews. *Engaging in the Study of Organizations: A Temporary Systems Approach to the Description and Analysis of the Teacher Corps' Pilot Trainer Workshops*. Omaha, Nebr.: Center for Urban Education, the University of Nebraska at Omaha, 1978.

Gant, J., O. South, and J. Hansen. *Temporary Systems*. Tallahassee, Fla.: authors, 1977.

Chapter 6

THEREFORE WE SHOULD . . .

Data- and Experience-Based Guidelines for Designing and Operating Short-Term Instructional Programs

• *Roger S. Pankratz*

During the past 18 months five individuals who served in key roles in Corpsmember Training have attempted to distill the most significant findings from the three-week summer institutes of 1975, 1976, and 1977, and to project the implications of these findings for future short-term training efforts. The data which were examined for the study primarily came from two sources:

- the research data collected at institutes and analyzed with respect to specific questions, and
- interviews with the chief instructional leaders of each institute.

What was presented in previous chapters of this monograph describes the data, the findings, and the process for collecting and analyzing the data. What follows in this chapter is the "bottom line" of suggestions and guidelines for short-term instructional programs that can be inferred from the data.

Some of the research questions generated have clear answers from both the research data and from the experience base of training veterans; other questions can be answered only for given situations; still other questions cannot be answered either because the data are absent or not interpretable at this point. Below three sets of statements are presented for each of five critical areas where decisions are made in the design and start-up of short-term instructional programs. First of all, a summary statement is presented as a generalization from the data. This is followed by a "therefore we should" statement presented as an implication of the data and a suggestion for future action. A third set of statements labeled "concluding point of view" presents this writer's ideas and suggestions which may go beyond the data presented in previous chapters of this monograph.

PLANNING

Summary Statements	*Therefore we should . . .*
• When the goals and purposes of a short-term training effort are clear to the planners and instructional staff, short-term training programs seem to have more focus and what is attempted seems more realistic.	• obtain agreement among the chief planners on the primary purpose and broad anticipated outcomes of the training program at the earliest possible date.
• Ownership of short-term training efforts by the constituent groups served is important if the program is to have acceptance at the back home site.	• involve key individuals early on from significant groups who will be either participants in the training or who will be directly affected by the products of the training effort to provide input to and feedback for the planning activities.
• Effective planning requires time: the larger and more involved the program, the greater the amount of time needed for planning.	• plan early and be liberal in the amount of time allowed for planning; keep the training design simple when time for planning is limited.

Summary Statements	*Therefore we should . . .*
• Short-term training efforts seriously limit the amount of new content that can be learned by the participant.	• make every effort to limit projected outcomes to what is reasonable in the amount of time for training and what can be done well.
• Current concerns of individual participants and role groups are important and must be attended to regardless of planned content outcomes.	• anticipate the personal, professional, or role concerns of participants who will be attending the institute and address these early in the short-term instructional program.

Concluding Point of View

The success of short-term instructional programs is largely determined by the decisions that are made or not made in the early stages of planning. If the purpose and outcomes are clearly stated and agreed to early on, other critical decisions about instructional design, staffing, and support systems can follow. If the outcomes are not clear, the program design evolves from everyone's interpretation.

One of the most frequent statements heard in post mortem sessions of training efforts is "too much was attempted in too little time." In instances from the CMTI experience where a few concepts were clearly defined and emphasized, the frustration level of the instructional staff was reduced, the participants rated the training effort higher, and there was usually a measurable achievement of intended outcomes. The obvious lesson is "plan to do a few things well."

Keep the planning group relatively small but representative, especially when time for planning is limited. While inputs from the various role groups is extremely important, much of the actual planning can be done by a small but representative group.

There is no evidence from the research data that early participation in planning by instructional staff improves the quality of the training institutes. It is probably more economical to use the limited available time for appropriate

staff-training activities than to involve instructional staff in early planning if the objective is to develop ownership in the program.

INSTRUCTIONAL DESIGN

Summary Statements	*Therefore we should . . .*
• The achievement of a concept is *not* related to the amount of classroom time devoted to the concept.	• clearly define expected outcomes and allow instructional staff to use their own instructional style with minimal constraints on use of classroom time.
• Learning groups with process-oriented leadership seem to have an edge in achievement over groups with task-oriented leadership; however, both of the above groups tend to achieve more than groups in which the leadership offers neither process- nor task-orientation.	• select instructional leadership who are able to use a process orientation. • avoid mixing instructional staff who have quite different orientation to learning and training.
• Participant rating of the institute is higher when interactive modes of instruction are used and when participants perceive a greater emphasis on concepts.	• encourage instructional staff to use participant interactive activities (i.e., discussions, problem-solving, simulations, and gaming).
• Participants in task-oriented groups perceive content is emphasized to a greater degree than those in process-oriented groups.	• clearly define and consistently emphasize the key concepts and content in the instructional program.
• Abrupt shifts in modes of instruction, composition of learning groups, or institute format cause stress and negative reaction of participants.	• avoid abrupt shifts in program design. If abrupt changes must occur, plan transitional activities to deal with them.
• Learning in clusters and in small groups is effective and seems to provide a vehicle for participants to achieve a needed identity.	• use cluster groups as primary learning units.
• Individual and intergroup conflict can be a normal, health occurrence in short-term institutes.	• plan for conflict management strategies as part of the learning experience.

Summary Statements	*Therefore we should . . .*
• Leisure time is a critical aspect of any institute or short-term instructional program.	• plan for appropriate blocks of leisure time whether or not a planned learning activity is involved.

Concluding Point of View

The instructional design and modes of instruction should fit the intended outcomes of the training effort. Experience and evaluation data in the three CMTIs confirmed the notion that there is no best way to deliver instruction. Different modes of instruction and different strategies are needed for different intended outcomes. Small learning groups are most appropriate for certain learning outcomes, whereas they are inefficient for others. There is evidence to support the notion that some process orientation is helpful in all training efforts regardless of the intended outcomes. However, in CMTI programs process orientations to training have been more successful than task orientations in producing affective outcomes, whereas more didactic methods have been used more successfully in producing achievement of specific cognitive content.

One way to encourage consistency in the delivery of content is through the development and use of instructional materials. Well-designed materials that can be easily picked up and used by both the instructional staff and the participants should be developed and/or identified and made available for training. This is particularly true for specific content that is to be delivered by the training.

The models of teaching-training materials (CMTI-75, 76), the simulation games, and concept definitions coupled with the case study materials (CMTI-77) are all examples in which training materials were used extensively to deliver standard content or concepts with positive measurable results. On the other hand, the many volumes of handout materials and general reference materials were used little at the institute or back at the project, according to the data collected on the institutes.

A limited number of well-developed instructional strategies related directly to the content to be delivered is more desirable than providing large quantities of reference materials.

STAFF SELECTION AND TRAINING

Summary Statements	*Therefore we should . . .*
• Participants rate the institute higher when experienced trainers are employed.	• select staff who have had past experiences in delivering short-term training programs and who can quickly identify with the purpose and intended outcomes of the programs.
• A good balance of staff members is needed with respect to age, ethnic background, and area of expertise.	• select staff at an early date to insure a good balance, while also satisfying the need for experienced staff who already have the skills and expertise for conducting the training program.
• Conflict among staff working together in a cluster is more likely to occur if their orientation to the learning and training processes is quite different.	• select staff members to work together in a cluster who have maximum compatibility with respect to their mutual philosophy and orientation to the training process.
• The conflict pattern of two persons against one person that sometimes occurs in training groups of threes can be reduced by building training groups of four or five persons. Units of three trainers seem to work satisfactorily if one member of the team is a stronger leader than the other two.	• consider the relative leadership strength and compatability of training team members in determining the number of trainees that will be assigned to work together on an instructional team.
• Staff ownership of the training program they deliver is important for a successful institute or short-term instructional program.	• allow a time equivalent of one-third to one-half of the time of the institute for staff training and start-up.

Summary Statements	*Therefore we should . . .*
• Staff training and planning for start-up is critical to developing ownership and establishing norms for the institute.	• use staff training time for: (1) communicating intended outcomes, organizational structures, and program constraints; (2) the building of training teams that will be working together; (3) developing an awareness of training resources available; (4) planning by instructional staff.

Concluding Point of View

One does not have time to develop trainers for a short-term training effort. There is not enough time in staff training sessions. Trainers must possess the necessary expertise and skills they will be expected to demonstrate when they arrive. I strongly recommend selecting professionals who know who they work for, who have experience at orienting themselves quickly to the objectives and design of the program, and who then work hard to deliver training that will achieve the intended outcomes.

Once the outcomes of the program have been clearly communicated and once the constraints of the program have been established, the instructional staff should be given the freedom and support to design and conduct training activities with a minimum of interference from the institute administration.

Research data indicated that achievement of content was not related to the amount of class time spent on concepts to be learned. Attempts to standardize methods of instruction in the CMTI experiences have had little success. Individual staff members and groups of staff members each seem to have their own personality and style of operation that works best for them.

A great deal of attention should be given to establishing appropriate norms at the start-up of both the staff training program and the participant training programs.

The instructional design of short-term training programs includes establishing appropriate norms and standards of behavior that are consistent with the intended outcomes. Since most norms are established on the first day of both the staff training and the participant training, the start-up or building of the "temporary system" is most critical. The "givens" with respect to the expected performance, time commitments, instructional space, etc., should be clearly communicated and modeled by trainers during the start-up of the program. Also, in programs that operate with more or less independent learning groups or clusters, it is important that a general framework of expectations remains consistent across all groups.

SUPPORT SYSTEMS

Summary Statements

- Site selection and accompanying facilities affect the outcomes of an institute or workshop; they enhance or impede the instructional program and they help create the social system of the institute.
- The degree of flexibility and responsiveness of the support system determines the degree to which the instructional program is enhanced by the facilities.

Therefore we should . . .

- select a site that is somewhat isolated (to encourage social interaction) but not too remote (to allow access to recreational and leisure time facilities).
- select facilities that complement the instructional design and purpose of the program.
- select a site and facilities where the entire area or component can be "owned" for the duration of the workshop (sharing with others according to a schedule does not allow flexibility).
- set up a flexible and responsive instructional technology support system as an integral part of the instructional program.

Summary Statements	*Therefore we should . . .*
• It is important that participants themselves feel they have a degree of ownership in the institute living and learning program.	• develop a shared governance system in conjunction with institutes that allows participants to alter the system and improve its responsiveness to meeting participant needs.

Concluding Point of View

Facilities and support systems are critical to outcomes of any short-term training effort; therefore, the instructional, living, and recreational facilities of the training site should be given serious consideration in selecting the appropriate location.

Some instructional designers prefer a more remote retreat setting that forces interaction of participants during leisure time, while other designers believe that participants need to be able to get away from the training site during leisure time periods. While there is little research data suggesting one arrangement over the other, experience from the three CMTIs demonstrated that there were far fewer complaints about the living and recreational environment at San Diego State (less remote) than at the University of Richmond (more remote). This may have had little to do with the learning of participants; however, it did greatly affect the mental health of the institute director!

Anticipating the specific needs of a diverse group of trainers for instructional technology is difficult, if not impossible. Probably the best advice is to use past experience to acquire a set of basic hardware and software and then set up to be very flexible and responsive as requests for materials and instructional tec. ology come in. Every short-term training program of any size should have immediate access to 24-hour reproduction equipment!

EVALUATION

Summary Statements	*Therefore we should . . .*
• Temporary systems concepts have been useful in explaining the dynamics of short-term training programs.	• encourage the use of the temporary systems model to evaluate short-term training efforts (use the assumption that the degree to which the training effort conforms to the model is some measure of how well it was planned, implemented, and followed up).
• Evaluation, like other components, is enhanced when it is an integral part of the design of short-term training programs.	• begin to build the evaluation design into the program at the very early stages of planning.
• The effectiveness of the evaluation program is directly related to the degree of cooperation between the instructional staff and the evaluators.	• encourage early involvement, interaction, and the development of trust between instructional staff and evaluators.

Concluding Point of View

Evaluation of short-term training programs should be both formative and summative. The program should provide information to the institute while in operation and it should provide data on overall effectiveness of the program. The evaluation program should focus on how well the purposes and objectives of the short-term effort were achieved and how well participants responded to the instructional program. While some follow-up evaluation of short-term training may be desirable as part of the temporary systems model, long-term follow-up evaluation designs should not be attempted. (It's just not worth the effort or the costs.)

A POINT OF VIEW ON MULTICULTURAL EDUCATION

Each of the three Corpsmember Training Institutes has been a multicultural experience for participants that Interns and Team Leaders have rated highly. Non-minorities have

usually found them more helpful than minorities. However, attempts to develop greater cognitive knowledge and understanding through a planned curriculum in the three-week CMTI experience have not shown significant gains in achievement. These data support the opinion that *short-term training programs should focus on affective outcomes in the area of multicultural education*. This is particularly true if the group itself is multicultural in composition and if many of the participants have had few opportunities to interact directly with persons from other cultural and ethnic backgrounds.

SUMMARY

In this chapter some data- and experience-based guidelines have been set forth to assist future planners and designers of short-term training programs. This effort grew out of three years of experience with planning and operating Corpsmember Training Institutes in the Teacher Corps program. In some areas the research data and experience data of chief planners are consistent, and clear guidelines can be set forth. In other areas there is not enough research data or agreement among the planners of past institutes to suggest guidelines.

The guideline statements have been grouped under the broad headings of Planning, Instructional Design, Staff Selection and Training, Support Systems, and Evaluation. These seem to be the major phases of planning where critical decisions are made or not made that have a profound effect on the outcome of the short-term training effort. Speaking as one who has been an instructional staff member, an instructional leader for a content area, and an associate director of instruction for the Corpsmember Training Institute, I firmly believe that the success of short-term training programs is determined in the early planning. Once start-up operations are completed, the institute or workshop is projected like a rocket out of the launching pad. Its direction and final destination will depend almost entirely on the internal guidance system that was built in during the planning and design phases.

Appendix

EMPIRICAL STUDY OF INSTITUTE STRATEGIES

• *W. Robert Houston*

Data included in this Appendix support the conclusions summarized in Chapter 4. It reports on 19 questions related to organizing short-term learning experiences that were posed by institute leadership at the end of CMTI. The Appendix is organized in three sections: Study Procedures, Analyses and Results of Studies, and Summary of Findings.

The 19 study questions are related to three areas of concern:

- participant achievement,
- multicultural experience, and
- staffing and instructional styles.

Many of the findings are summarized in Chapter 4; however, those related to multicultural education are not. Therefore, the reader may wish to pay particular attention to them. A topical guide to this Appendix and to the study questions is provided in the preliminary pages of this book.

SECTION 1: STUDY PROCEDURES

During August, 1977, the Corpsmember Training Institute (CMTI) was held in San Diego, California. Fifty-six Team Leaders and 226 Interns from Teacher Corps projects in 31 states attended the institute and were the subjects in this study.

Two-third of participants were female. Over half of the Interns were in the 20-24 year age range, while only one of the Team Leaders was that young. Three-fourths of the Interns were unmarried, while two-thirds of the Team Leaders were married. Half of all participants were Caucasian, one-third Black, and 12 percent Hispanic/Chicano Americans. Interns generally had no pervious teaching experience, while three-fourths of the Team Leaders had taught six or more years.

The three-week institute emphasized specifically 11 organizational concepts. These were: (1) power, authority, and influence; (2) decision-making; (3) communication; (4) slippage; (5) role set; (6) formal structure; (7) informal structure; (8) temporary systems; (9) conflict; (10) norms; and (11) motivation/self-interest. During the first week, Team Leaders also explored clinical supervision practices.

The institute was organized around eight relatively independent clusters. Each cluster included a cluster leader, two instructors, and about 35 participants. A wide and extensive range of instructional resources was available to each cluster, including films, simulations, books and printed materials, resource persons, and opportunities for field trips.

While common goals and resources promoted a general thrust for the institute, the idiosyncratic leadership/instructional styles of the faculty were expressed in quite different approaches in the different clusters. This variation on the central theme permitted the comparative assessment of different methods.

Data were collected in a number of ways to assess the processes and outcomes of the institute. Before the institute and again after formal instruction had been completed, partici-

pants completed achievement tests which included subscores for the 11 organizational concepts. Participants rated the extent to which they believed they had achieved institute content and their perception of the emphasis placed on each of the 11 concepts. Participants indicated before and following the institute those outcomes they considered most important, and they rated CMTI on a number of scales. Interviews and open-ended questions were other data-collection processes. Each cluster was observed at least twice each day using an instrument that measured the activities that were occurring. Dimensions included on the observational instrument included content emphasis, instructional strategies, and observer rating of the instructional climate.

All these data were collected, stored on computer tapes, and analyzed in a number of ways (one-way analysis of variance, *t*-test, Pearson correlations, Spearman rho correlations, regression, and multiple regression).* These are discussed in Section 2 of this Appendix as they are first used.

Greater detail regarding the organization of the institute, data-collection procedures and instruments employed in evaluating CMTI and used in this study, and results of other analyses not reported herein can be found in two reports:

- Andrews, Theodore E., W. Robert Houston, and Brenda L. Bryant. *CMTI 1977: Description of CMTI.* Omaha, Nebr.: Center for Urban Education, the University of Nebraska at Omaha, February, 1978. 140 + viii pages.
- Houston, W. Robert, Theodore Andrews, and Brenda L. Bryant. *CMTI 1977: Synthesis and Analysis of Data.* Ibid., March, 1978. 243 + xi pages.

*In this study, all procedures were accomplished within the scope of the capabilities of the Statistical Package for the Social Sciences (SPSS). N. E. Nie, H. Hull, J. Jenkins, K. Steinbrenner, and D. Bert, *Statistical Package for the Social Sciences*, 2nd ed. (New York: McGraw-Hill, 1975).

SECTION 2: ANALYSES AND RESULTS OF STUDIES

The analyses of data and results relative to the 19 questions of this study are reported in this section. They are presented in three parts: Participant Achievement, Multicultural Experience, and Staffing and Instructional Styles.

PARTICIPANT ACHIEVEMENT

Participant achievement was an important outcome of CMTI. While a variety of organizational and instructional approaches were employed in and across the eight clusters, the same types of data were collected on all participants. This series of studies probed the achievement of participants in relation to several variables. Achievement was measured in two ways:

a. A 46-item achievement pre-test and post-test which included scales on each of the 11 organizational concepts.

b. A 36-item assessment of participants' ability to translate filmed episodes into appropriate organizational concepts. Administered at the end of the second week of CMTI, this test probed participant recognition and application of concepts.

Actual achievement scores of individuals and means of groups were used in computations for the recognition/application test (*b* above) as it was administered only once—that is, after instruction.

The achievement test (*a* above) was administered before the institute (pre-test) and following instruction (post-test), thus yielding three direct indices of instruction—pre-test, post-test, and change (post-test minus pre-test). All three of these scores for individuals and group means were employed in study questions concerning achievement.

In addition, both simple and multiple regressions were calculated, which presented standardized achievement scores

with a mean for the total population of 0.00 and a standard deviation of 1.0. The methodology followed in this analysis was suggested by Soar (1978). Because of a number of methodological considerations, this aspect of the study is briefly described with supporting rationale.

Analysis of participant achievement scores revealed that 6 of the 28 cluster pairs differed significantly in pre-test means. The anlysis of covariance does not adequately adjust for such subsample discrepancies (Campbell and Erlebacher, 1970; cited in Soar, 1978), leading to a spuriously greater gain for a higher pre-test sample. McNemar (1975, pp. 848-50) subsequently derived theoretical evidence that proper adjustment for differing subsample means can be made by accounting for both pre-test scores and group membership (clusters) using the multiple regression technique. Soar (1978, p. 114) concluded that for analysis of process-product relationships, multiple regression was appropriate as it facilitates "simultaneous analysis of numbers of measures, including interactions and nonlinear relations, and since it conserves information and degrees of freedom." Regression analyses were performed upon individuals and across clusters (Soar, 1978, pp. 113 and 115).

Standardized values for residual variables are reported, in preference to unstandardized ones, to facilitate inspection of arrays of cross-cluster variable means and rosters of cross-variable means.

The eight cluster-membership dichotomies were entered in the regression equation simultaneously, with pre-test entered on the second step, in the multiple regression. The extent to which the independent variables accounted for variability in the dependent variables and the success of the stepwise regression procedures are summarized in Table A-1, which includes multiple correlations (R^2), F-ratios, and standard errors of estimate for the two steps of the multiple regression, (1) cluster membership and (2) cluster membership and pre-test, and for the simple regression based on pre-test only. The sim-

ple regression was used when the effects of cluster membership were to be included in the variability.

Two sets of data were subjected to this analysis, multicultural achievement (reported in the second part of this section) and concept achievement (reported in this part of the section).

The multiple correlations (R^2) in Table A-1 measure the proportion of the total variation about the post-test mean that is explained by the regression. When cluster membership was used in the regression equation, only 4 percent of the variance in multicultural achievement and 5 percent in concept achievement were explained. Using both cluster membership and pre-test increased this to 24 percent for multiculture and 45 percent for concept achievement. Using pre-test only in a

Table A-1: Accuracy of the prediction equations generating the regressed change values (residuals)

		Independent variables								
		Multiple regression								
		Cluster membership			Cluster membership and pre-test			Simple regression based on pre-test		
Dependent variables		R^2	F	SEE	R^2	F	SEE	R^2	F	SEE
Multicultural achievement	1	.05	1.54	.80	.29	10.55**	.70	.25	82.01**	.70
	2	.04	1.09	.88	.17	5.39**	.82	.13	37.15**	.83
	3	.03	.81	.91	.28	10.47**	.79	.25	81.08**	.79
	4	.05	1.73	.84	.27	9.75**	.74	.22	70.84**	.75
	5	.04	1.17	.75	.18	5.74**	.70	.14	39.63**	.70
Total		.04	1.36	.65	.24	8.41**	.58	.20	61.56**	.59
Concept achievement	1	.09	2.81**	13.80	.10	2.87**	13.74	.01	3.30	14.13
	2	.02	.61	22.46	.03	.89	22.37	.01	2.59	22.25
	3	.05	1.52	12.21	.08	2.20*	12.05	.03	8.85**	12.12
	4	.04	1.37	22.05	.14	4.38**	20.93	.08	22.33**	21.28
	5	.04	1.17	22.64	.11	3.37**	21.78	.09	24.47**	21.70
	6	.03	1.06	20.42	.12	3.71**	19.50	.09	23.85**	19.55
	7	.06	2.05*	22.27	.24	8.53**	20.06	.19	57.48**	20.43
	8	.07	2.17*	16.18	.12	3.59**	15.76	.04	9.83**	16.20
	9	.05	1.60	21.61	.11	3.25**	20.98	.07	17.47**	21.13
	10	.03	.94	20.57	.13	4.07**	19.49	.10	25.86**	19.59
	11	.05	1.68	20.56	.15	4.62**	19.54	.10	26.38**	19.80
Total		.05	1.48	8.66	.45	21.75**	6.59	.40	165.22**	6.77

*Significant at $p < .05$. **Significant at $p < .01$.

simple regression accounted for 20 percent in multiculture and 40 percent of the variance in concept achievement.

The *F*-ratio is a test of the overall goodness of fit of the regression equation. Only three subscales were significant for cluster membership, while all but one were when cluster membership and pre-test were both included in the multiple regression and all but two were when pre-test was employed in the simple regression.

The standard error of estimate (SEE) is based on the absolute amount of explained variation. It is the standard deviation of actual post-test values from those predicted. For the total in multiculture, this was .65 when cluster membership was used, dropping slightly to .58 when cluster membership and pre-test were both used in the multiple regression, and .59 for pre-test alone. When cluster membership was entered in the regression equation related to concept achievement, the standard error of estimate was 8.66, dropping to 6.59 when pre-test was added to the calculations, and 6.77 when pre-test was entered in the simple regression equation.

Table A-2 describes the resulting 60 scores utilized in assessing achievement. Considering achievement as measured by these 60 scales, the following questions were posed for study:

1. Is there significant difference in participant achievement among the eight clusters?
2. Is there a relation between participant achievement and the extent (time) to which organizational concepts were observed being taught?
3. Is there a relation between participant achievement and the extent to which participants perceived organizational concepts were emphasized in CMTI?
4. Is there a relation between participant achievement and, first, the extent of direct instruction and, second, the extent of interactive instruction in the cluster?
5. Is there a relation between the extent to which participants perceived organizational concepts were emphasized in CMTI and, first, the extent of direct in-

struction, and, second, the extent of interactive instruction in the cluster?

6. Is there a relation between participant achievement and the extent to which participants selected their cluster leader or instructors to work on a hypothetical educational problem?
7. Is there a difference in participant achievement between clusters that are most task-oriented and those that are most process-oriented?
8. Is there a relation between participant achievement and participant assessment of CMTI?

Table A-2: Content scales of achievement tests

Organizational concept	Post test	Pre-test	Change (post-pre)	Regressed gain	Recognition/ Application
Power, Authority, Influence	x	x	x	x	x
Decision-making	x	x	x	x	x
Communication	x	x	x	x	x
Slippage	x	x	x	x	x
Role set	x	x	x	x	x
Formal structure	x	x	x	x	x
Informal structure	x	x	x	x	x
Temporary systems	x	x	x	x	x
Conflict	x	x	x	x	x
Norms	x	x	x	x	x
Motivation/Self-interest	x	x	x	x	x
Total	x	x	x	x	x

1. Cluster Achievement

The first question in the study probed for differences in achievement among the eight clusters. This question formed the basis for others to be asked subsequently. The question was stated as follows:

1. Is there significant difference in participant achievement among the eight clusters?

Means and standard deviations for each cluster are included in Table A-3 for the following achievement test results: pre-test,

post-test, change between pre-test and post-test, regressed gain, and application/recognition test.

Pre-test means ranged from 41.61 to 50.72 among clusters, with a mean for all participants of 46.96. Post-test means ranged from 57.35 to 65.28 among clusters, with a mean for all participants of 59.61. Change between pre-tests and post-tests ranged from 7.61 to 20.68, with a total mean change of 12.64. When standardized post-test scores were regressed using standardized pre-test scores, the expected mean was 0 for the total population, with a standard deviation of .77. The means for three clusters (C, D, and G) were negative; this does not imply that they did not gain in achievement during the institute, only that their regressed gains were less than those of participants in other clusters. In deriving a mean of 0.00 for the population, some cluster means would logically be less than 0 if some were greater than 0.

Table A-3: Mean of achievement scores of participants by cluster

		Concept achievement									
		Pre-test		Post-test		Change		Regressed gain† (stan. scores)		Application/ Recognition	
Cluster‡	n	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
A	35	42.17	21.80	62.86	8.17	20.68	20.20	.15	.71	61.75	14.40
B	30	50.43	12.20	60.87	13.55	10.43	17.25	0.00	.60	63.98	15.28
C	36	50.30	11.12	59.90	8.89	9.60	7.54	−.19	.69	63.97	11.10
D	34	42.14	22.48	57.35	17.64	15.22	30.25	−.18	.85	55.47	18.20
E	35	41.61	22.27	61.37	15.03	19.75	25.56	.15	.95	62.70	15.29
F	35	50.56	9.50	61.24	12.84	10.68	13.21	.15	.73	58.57	17.55
G	36	50.72	14.97	58.33	13.65	7.61	13.52	−.37	.88	57.18	14.76
H	35	49.13	15.78	65.28	4.61	16.15	14.62	.32	.56	63.97	8.98
Total	276	49.96	17.66	59.61	15.15	12.64	21.04	0.00	.77	59.61	17.13

‡Clusters were numbered in CMT. These letter designations do not correspond to the former system.
†Post-test regressed on pre-test scores with population standardized mean = 0.00 and standard deviation = 1.00.

To determine if participant scores among clusters were different, five one-way analyses of variance were computed. These results are found in Table A-4.

Discussion. The purpose of this first analysis was to determine if achievement of individuals varied among clusters.

Significant differences occurred among clusters on the pre-test, change in achievement, and regressed gains in achievement. In further analyses, the relation of achievement with potential contributing factors is explored. When appropriate, multiple regressions are computed in which the effects of both pre-test and cluster membership are partialed out.

Table A-4: Analysis of variance for achievement on pre-test, post-test, regressed gain, and application/recognitions tests by clusters

Dependent variable	*df*	Sum of squares	Mean squares	*F*
Pre-test	275	82,205.35	929.87	2.21*
Post-test	275	42,674.57	370.40	1.41
Change in achievement	254	70,348.49	1,162.79	3.49**
Regressed gain	7,240	12.21	1.74	3.09**
Application/ recognition test	275	60,667.84	613.80	1.84

*Significant at $p < .05$ **Significant at $p < .01$.

2. *Time on Task*

A number of studies have been conducted which demonstrated a relationship between the emphasis placed on a content area and student achievement (Berliner and Rosenshine, 1976; Medley, 1977). Often referred to as "time on task," "academic engaged time," or "teaching time," these studies have been concerned primarily with elementary school pupils. None has examined this variable for adults. CMTI provided an ideal opportunity to do so. The organization of CMTI into eight clusters, the extensive observation schedules which permitted objective reporting of the extent to which organizational concepts were taught, and the pre- and post-testing of participants on topics not usually included in their curriculum—all these circumstances facilitated a unique and potentially powerful examination of this area.

The following study question was posed:

2. Is there a relation between participant achievement and the extent (time) to which organizational concepts were observed being taught?

Two variables were included in the analysis of data related to this question. The first was participant achievement on the post-test, change between pre-test and post-test, regressed gain, and recognition/application test. The second variable, extensiveness to which each of the 11 organizational concepts was taught in each cluster, was determined through direct observations. Each of the eight instructional clusters was observed for 20 minutes, three times each day. Times for observations were drawn randomly. Each 20-minute observation period was divided into four 5-minute segments. During the first four minutes of each segment, the observer watched and listened to the classroom interaction, then used the fifth minute to record his/her observations. If any of the 11 organizational concepts was taught during the four minutes, that concept was checked. More than one concept could be checked, if appropriate. Since an observational period was composed of four such segments, the range of checks was from 0 (this concept not observed) to 4 (this concept was observed in each of the four segments). Thus, approximately 180 four-minute segments were observed in each cluster during the three-week institute (variance occurred when full 20-minute observations were not made because the random selection of observation times included lunch or when they were at the end of the day, thus precluding 20 minutes of observation).

Using clusters as units of measurement ($n = 8$), the following means and standard deviations were recorded for observed time on each concept (expressed in percentage), post-test, change between pre-test and post-test, regressed gain standardized scores, and recognition/application test percentages. These are included in Table A-5.

The average time any concept was observed being taught was 12.89 percent. Concept 3 (communication) was observed being taught an average of 17.87 percent of the time, while concept 5 (role set) was observed 11.10 percent of the time. Using clusters as the unit of measurement, post-test means averaged 60.49 percent, ranging from 39.90 for concept 1 (power, authority, and influence) to 90.70 for concept 3 (com-

munication). Change from pre-test to post-test averaged 15.88 for clusters, with least changes occurring for concept 1 and greatest change in concept 4 (slippage). When post-test scores were regressed using pre-test and cluster membership, the range of standardized means was from .04 for concept 3 (communication) to .31 for concept 2 (decision-making). The recognition/application test yielded score averages of 60.53 percent for clusters, ranging from 37.79 for concept 8 (temporary systems) to 76.75 for concept 3 (communication).

Table A-5: Means and standard deviation by concept for percent of observed time, post-test, change, regressed gain, and recognition/application test

	Percent observed time on concept		Post-test		Change		Regressed gain†		Recognition/ application	
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	14.75	3.46	39.90	4.65	15.82	4.62	.16	.07	54.66	4.13
2	13.47	2.88	45.65	3.20	17.42	6.31	.31	.08	56.50	6.25
3	17.87	2.90	90.70	3.55	22.30	6.54	.04	.09	76.65	5.03
4	11.77	2.66	75.90	4.87	38.72	8.62	.13	.08	63.67	8.15
5	11.10	3.10	74.44	4.30	29.54	4.21	.14	.08	53.54	6.05
6	13.89	2.90	43.76	4.03	18.26	4.03	.17	.11	61.73	3.46
7	13.09	2.97	75.08	7.03	28.49	4.93	.10	.07	70.30	4.66
8	12.01	2.87	47.78	4.00	26.93	7.95	.23	.09	37.79	4.26
9	13.34	3.13	69.29	5.81	21.95	7.09	.23	.08	70.83	4.58
10	12.87	3.26	52.73	3.59	24.83	3.84	.22	.10	63.24	6.84
11	11.54	3.43	64.81	5.04	25.01	5.38	.17	.06	63.44	5.74
Total	12.89	2.84	60.49	2.49	15.88	5.35	.10	.05	60.53	3.41

†Post-test regressed on cluster membership and pre-test; standardized scores with population mean = 0.00 and S.D. = 1.00.

Correlation coefficients were computed using the mean scores for each cluster rather than individual participant means. With an *n* of eight, correlation coefficients are included in Table A-6. Correlation coefficients ranged widely and without pattern. The small *n* (eight clusters) may have contributed to this; however, only 2 of 48 correlations were statistically significant, about the proportion expected by chance.

With these data as a basis, it was concluded that only 1 of 33 relationships was significant; that is, the relation between the extent of observed instruction for concept 9 (conflict) and

change in achievement (post-test minus pre-test). While many of the other coefficients were relatively high, the small *n* resulting from use of clusters as the unit of analysis limited statistical significance. The following finding is reported from an analysis of the data.

- There were relationships between observed time on instruction related to a partiuclar concept and achievement of that concept.

Table A-6: Correlation between observed emphasis of each CMTI concept and its corresponding achievments (n = 8)

Concept	Post-test	Change	Regressed gain†	Recognition/ Application
1	.46	.33	-.77*	.34
2	-.25	.19	.17	.34
3	.11	.31	.06	.13
4	.11	.46	-.55	-.07
5	-.23	.28	-.54	-.01
6	-.55	.20	-.41	-.51
7	.07	.58	.17	-.19
8	.15	.06	-.10	.07
9	.09	.77*	.24	.21
10	.15	.62	-.57	.65
11	.28	.50	-.55	.37
Total	.09	.56	.25	.25

*Significant at $p < .05$.
†Based on post-test regressed on pre-test and cluster membership.

Discussion. No statistical relationship was found between the observed time clusters were engaged in studying a concept and their achievement on that concept. There were, however, relatively large correlation coefficients and a tendency toward such a relationship. Since this was a preliminary heuristic consideration of this question, the data were also analyzed using individual scores with an *n* of 282. The correlation coefficients were smaller than those just reported, but the number of significant correlations did not increase. It is recommended that similar studies be conducted with larger samples to determine the extent to which time is related to the achievement for adults.

3. Perceived Emphasis and Achievement

Participants tend to characterize institutes and workshops as emphasizing certain concepts while tending to ignore others. This question in the study explored the relation between the *perceived* emphasis on certain concepts by participants and their subsequent achievement on those concepts. Specifically, the question posed was:

> 3. Is there a relation between participant achievement and the extent to which participants perceived organizational concepts were emphasized in CMTI?

Participant achievement was measured for this question using post-test scores, change between pre-test and post-test, regressed gain, and recognition/application test scores.

At the conclusion of CMTI, participants were asked to rate on a five-point scale the extent to which they believed each of the 11 concepts was emphasized at CMTI. These data were correlated with the three achievement test scores using the Pearson product-moment procedure, and are included in Table A-7. The correlation between post-test scores and perceived emphasis for concept 1 was .11, and not statistically significant. Likewise, each of the correlation indices represents the relation between achievement and perceived emphasis for that concept only.

Seven out of 48 correlations were statistically significant; however, the highest was only .20, accounting for only 4 percent of the variance. None of the correlations was significant between standardized regressed gains and perceived emphasis in CMTI on a concept. For two concepts having high achievement, the relation with perception was significant on 2 of 4 measures of achievement. These were number 3 (communication) and number 10 (norms). Findings from these data can be summarized as follows:

- Relationships between perceived emphasis on a concept and actual achievement tended to be low and not significant. They appeared to be greater than the re-

Table A-7: Relation of perceived emphasis and achievement (n = 282)

Concept	Post-test	Change	Regressed gain†	Recognition/ Application
1	.11	.03	.05	.02
2	.07	.09	.05	.08
3	.16**	.12**	.11	−.04
4	.13*	.01	.10	.12
5	.02	.05	.01	−.05
6	.04	.04	.05	.08
7	.02	.06	−.01	.10
8	.14*	.10	.09	.04
9	−.01	.03	−.03	.06
10	.09	.16**	.10	.20**
11	−.08	.03	−.08	−.17**
Total	.09	.11	.11	.06

*Significant at $p < .05$. **Significant at $p < .01$.
†Based on post-test regressed on pre-test and cluster membership.

lationships between observed emphasis and achievement, and for two areas, communication and norms, significant relationships were found in 2 out of 4 areas of achievement.

Discussion. There appeared to be little relation between participants' perception of the extent to which concepts were emphasized and their achievement on those concepts. While 7 of 48 relationships were significant, the correlation coefficients were low (highest .20). This low but positive relationship may tend to signal to implementors of workshops and institutes the importance of emphasizing salient concepts.

4. Direct and Interactive Instruction and Achievement

Modes of instruction may be characterized as *direct* (e.g., they emphasize presentations, films, demonstrations) where the style primarily is one-way and expository. Some instructional modes are *interactive*, such as discussions, simulations, and problem-solving situations. One of the questions posed in the study was concerned with whether participants who were in clusters with a greater emphasis on one or the other of these modes would achieve higher scores on content tests. Specifically, the study question asked:

4. Is there a relation between participant achievement and, first, the extent of direct instruction and, second, the extent of interactive instruction in the cluster?

Observers recorded the extent to which each of nine instructional activities was employed in CMTI. Each cluster was observed for approximately 180 four-minute segments 12 each day for 15 days. Five of the 9 activities were characterized as either interactive or direct. These are identified in Table A-8.

Table A-8: Direct and interactive instructional modes classified by involved populations and activities

Instructional activities	Faculty	Team Leaders	Interns
Presentation	Direct	—	—
Demonstration	Direct	—	—
Discussion/ Group problem-solving	—	Interactive	Interactive
Audiovisual	Direct	—	—
Role play/ Simulation/Gaming	—	Interactive	Interactive
Independent activity	—	—	—
Group planning/ Organizing	—	—	—
Routine managerial tasks	—	—	—
Recreation/Unfocussed discussion/Free time	—	—	—

The number of times the faculty presented, demonstrated, or used audiovisual resources during the approximately 180 observations was calculated. This sum represented the extent of direct instruction in a cluster.

Interactive instruction was similarly computed. The number of times participants (Team Leaders and Interns) were engaged in discussion or problem-solving experiences and in role playing/simulating/gaming exercises was summed for each cluster. This figure was used as an indicator of cluster interaction. Other instructional activities were not included in calculations for this study question because they represented either mixed data or were not consistently classifiable using the descriptors, direct and interactive.

Achievement means for each of the eight clusters were calculated. Correlation coefficients were computed between the extent to which a cluster employed the direct mode of instruction and mean achievement on tests and subscales. These correlations are included in Table A-9 for direct modes of instruction and in Table A-10 for interactive modes of instruction. Only 2 of 48 correlations for direct instruction were significant, approximately the proportion expected by chance.

Table A-9: Relation between concept achievement and extent of direct instruction (n = 8)

Concept	Post-test	Change	Regressed gain†	Recognition/ Application
1	.04	−.17	−.29	.33
2	.37	−.15	−.44	.28
3	.19	−.19	−.32	.69
4	−.09	−.08	.13	.51
5	−.24	.13	−.69	.09
6	−.23	−.13	.39	−.33
7	.38	.26	.25	.09
8	.52	.38	.30	.25
9	−.22	.58	36	.49
10	.02	.54	−.79*	.66
11	−.08	−.29	−.44	.75*
Total	.11	.10	−.17	.59

*Significant at $p < .05$.
†Post-test regressed on pre-test and cluster membership.

Table A-10: Relation between concept achievement and extent of interactive instruction (n = 8)

Concept	Post-test	Change	Regressed gain†	Recognition/ Application
1	−.24	−.13	.49	−.52
2	−.07	−.18	−.10	−.28
3	−.20	−.30	−.02	−.01
4	−.14	−.42	−.05	−.20
5	−.07	−.10	.42	−.47
6	−.11	−.54	.35	.03
7	−.21	−.32	−.28	− 12
8	−.12	−.04	.13	−.43
9	−.15	−.51	−.04	−.26
10	.26	−.55	.29	−.17
11	−.15	−.55	.01	−.08
Total	−.24	−.48	−.26	−.38

†Post-test regressed on pre-test and cluster membership.

None of the total scores approached significance. None of the correlations between achievement and the extent of interactive instruction was significant.

Discussion. No relation was found between achievement and either direct or interactive instruction. Correlations were small and not significant.

5. *Perceived Emphasis and Direct or Interactive Instruction*

Question 3 explored the extent to which achievement was related to perceived emphasis for each of the concepts, while question 4 considered the relation of achievement and direct or interactive instruction. One further question was germane to designing workshops: Is there a relation between participant perception of the extensiveness to which a concept was emphasized and the extent to which direct or interactive instruction had occurred?

Because lectures and other one-way communication modes tend to emphasize a particular concept, it was hypothesized that there would be a significant relationship between participant perception and extent of direct instruction. This was explored in the following study question:

> 5. Is there a relation between the extent to which participants perceived organizational concepts were emphasized in CMTI and, first, the extent of direct instruction and, second, the extent of interactive instruction in the cluster?

Participants' ratings of the extensiveness to which a concept was emphasized were correlated, first, with extent of observed direct instruction in each cluster and, second, with the extent of observed interactive instruction. Table A-11 includes these correlation coefficients.

Strong and consistent positive correlations were found between the observed extent of direct instruction (faculty presentations, faculty demonstrations, faculty use of audiovisual resources) and participant perception of the extensiveness to

which each concept was emphasized. Nine of 12 relationships were significant.

No such pattern occurred for interactive instruction. Thus, the following finding was relevant:

Table A-11: Correlation between observed emphasis (time) using direct and interactive modes of instruction and participant perception of emphasis upon a concept (n = 8)

	Instructional mode	
Concept	Direct	Interactive
1	.22**	.03
2	.06	−.01
3	.07	−.02
4	.15*	.02
5	.21**	−.01
6	.28**	.01
7	.16**	−.01
8	.20**	−.02
9	.17**	−.02
10	.17**	−.05
11	.10	.01
Total	.21**	−.01

*Significant at $p < .05$. **Significant at $p < .01$.

- Participant perception of the extent to which concepts were emphasized was related to the extent of observed direct instruction in the cluster. No relationship with interactive instruction was found.

Discussion. Apparently, participants were strongly influenced in their appraisal of the extent to which concepts were emphasized by the amount of time devoted to presentations and demonstrations by faculty. Workshop designers whose objective is to increase participant perception that the concept is being emphasized would be well advised to include a greater proportion of expository activities in the program.

Discussion groups, simulations, or gaming techniques apparently are unrelated to such perceptions. Participants appeared not to consider them in responding to the concept emphasis questions.

5. Perceived Instructor Competence and Participant Achievement

Do students achieve higher scores when they perceive their instructors are more effective (or conversely, do students perceive their instructors as more effective when they achieve higher scores)? The question of teacher competence and student achievement continues to concern educators and lay alike. One way to determine participants' perception of instructor competence may be to determine the extent to which they named their instructors when asked to form a task force to solve an education problem. The study question was as follows:

6. Is there a relation between participant achievement and the extent to which participants selected their cluster leader or instructors to work on a hypothetical educational problem?

Each participant in CMTI was asked at the end of the experience to name three persons with whom to work on a hypothetical educational problem. Some instructors were identified often by their students, while others were not named at all. The extent to which participants named their own cluster instructors was used as one variable in this question. Because of unequal numbers of participants in clusters, the percentage of students selecting an instructor or leader was used as the basic datum. Achievements on the post-test, change between pre-test and post-test, regressed gain, and the application/recognition test were correlated with these measures to determine the extent of relationships. As the cluster was the unit of analysis, the *n* was 8. Table A-12 includes these correlations for the post-test, Table A-13 for change scores (post-test minus pre-test) and regressed gains in achievement, and Table A-14 for results of the application/recognition test. Three of 36 correlations in Table A-12 were significant. There did not appear to be a pattern in these data. In a second analysis, change and regressed gains were correlated with

Table A-12: Correlation between selection by participants of their cluster leader or instructors to work on a hypothetical educational problem and participant achievement on the post-test (n = 8)

Concept	Leader of participant's own cluster	Instructor of participant's own cluster	Leader or instructor of participant's own cluster
1	.15	.73	.82*
2	.16	.27	.16
3	−.22	.49	.33
4	−.00	.30	.29
5	−.66	−.15	−.59
6	−.13	.27	.17
7	−.71*	.22	−.25
8	−.45	.62	.32
9	−.21	.74*	.59
10	.17	−.05	.06
11	−.57	.40	.02
Total	−.49	.68	.35

*Significant at $p < .05$.

participant's choice of instructors to work on a hypothetical educational problem. These are included in Table A-13.

Table A-13 includes two sets of correlations, one which examines change in achievement and the other which examines regressed gain. When change in achievement was correlated with choice of cluster leader and/or instructors to work on a hypothetical educational problem, 4 out of 36 correlations were significant. Three of these 4 significant relations were between achievement and both cluster leader and instructor, were positive, and non-significant correlations were relatively high. When regressed gain was correlated with choice of cluster leader and/or instructors, only one of 36 correlations was significant; i.e., total achievement and choice of cluster leader.

Six correlations in Table A-14 were significant: the three related to cluster leadership were negatively related to achievement on the application/recognition test, while the three related to instructors in the cluster were positively related.

Table A-13: Correlation between selection by participants of their cluster leader or instructors to work on a hypothetical educational problem and change in achievement and regressed gain (n = 8)

Concept	Change (post-test minus pre-test)			Regressed gain†		
	Leader of participant's own cluster	Instructor of participant's own cluster	Leader or instructor of participant's own cluster	Leader of participant's own cluster	Instructor of participant's own cluster	Leader or instructor of participant's own cluster
1	.61	.34	.75*	.37	−.48	−.25
2	.30	.69	.89**	.57	.25	.63
3	.48	.37	.69	.29	−.18	.02
4	.10	.34	.41	.18	−.14	−.02
5	.03	.71*	.73*	.59	.04	.41
6	.17	.36	.47	−.62	.00	−.42
7	.38	.29	.55	.30	−.04	.16
8	−.48	.37	.06	.06	−.15	−.09
9	−.09	.46	.41	.46	.22	.53
10	−.08	.37	.33	.50	−.01	.32
11	.26	.47	.64	.68	−.59	−.14
Total	.27	.51	.69	.82**	−.15	.40

*Significant at $p < .05$. **Significant at $p < .01$.
†Post-test regressed on pre-test and cluster membership.

Table A-14: Correlation between selection by participant of cluster leader or instructors to work on a hypothetical educational problem and achievement on application/recognition test (n = 8)

Concept	Leader of participant's own cluster	Instructor of participant's own cluster	Leader or instructor of participant's own cluster
1	−.21	.66	.51
2	−.59	.84*	.43
3	−.85**	.31	−.26
4	−.57	−.05	−.43
5	−.54	−.08	−.44
6	.18	.24	.34
7	−.42	.78*	.48
8	−.80*	.05	−.48
9	−.66	.59	.14
10	−.17	−.03	−.14
11	−.59	.80*	.41
Total	−.73*	.57	.08

*Significant at $p < .05$. **Significant at $p < .01$.

The data in Tables A-12, A-13, and A-14 were compared to identify patterns of significant findings. Selection of the cluster leader tended to have a negative relation with achievement on both the post-test (Table A-12) and recognition/application test (Table A-14). When the column, "Leader of participant's own cluster," was examined in all three tables, 5 of 48 correlations were significant and all but one were negative. Five of 48 correlations between achievement and instructors were significant and all positive. Four of 48 correlations for cluster leaders or instructors were positive and significant.

While there was a modicum of significant correlations (14 of 144 in Tables A-12, A-13, and A-14), the pattern of positive and negative relationships combined with the lack of a pattern for significant correlations was so striking as to cloud any findings. The finding reported for question 6 was as follows:

- No pattern of relationships appeared between participant achievement and their choice of leaders or instructors to work on a hypothetical problem.

Discussion. The number of significant correlations and the pattern of non-significant correlations that were consistent seem to indicate that no relation existed between achievement and participant choice of instructor/cluster leader to work on an educational problem. This finding, however, is tempered by the number of significant correlations and the magnitude of non-significant ones. Further analysis needs to be completed to identify factors which may clarify the relation studies in this question.

7. Task Orientation and Achievement

Workshop implementors tend toward a "task orientation" or a "process orientation" in their approaches to instruction. Those who tend toward either position support their actions with personal experiences, testimonies, and theoretical constructs, but rarely with research. In most instances, studies have not compared directly these two styles. This phase of the

study compared the achievement of persons involved in these two approaches. The study question was:

7. Is there a difference in participant achievement between clusters that are most task-oriented and those that are most process-oriented?

Participant achievement was measured using a post-test keyed to the content of the institute, a change score derived by subtracting pre-test from post-test scores on the content test, regressed gain standardized scores, and an application/recognition test derived from a filmed episode. Each of those instruments, previously described, included a total score plus scale for each of the 11 concepts.

Two of the eight clusters (E and F) in CMTI were clearly more task-oriented than the rest. Achievement was stressed, instruction was emphasized, schedules were made and generally kept, and objectives were clearly articulated and known to participants. Theirs was a task-oriented environment. Two other clusters (A and H) were primarily process-oriented. Group decisioning, while practiced in all clusters, was emphasized in clusters A and H. While learning content was considered important, activities were laced with process tactics.

Four other clusters were not so clearly either task- or process-oriented (clusters B, C, D, and G). They seemed to have some characteristics of both, being eclectic in their approaches.

Achievement scores for participants in the two most task-oriented clusters (group 1), the four mixed clusters (group 2), and the two most process-oriented clusters (group 3) were computed and contrasted using analysis of variance and *t*-tests.

At the end of the institute, participants completed an achievement test which measured their knowledge of the 11 concepts. The percentages of correct responses on that test for the three groups are found in Table A-15. These findings are evident from an examination of the data in Table A-15:

Table A-15: Mean percentage of correct responses on post-test by task-oriented and process-oriented groups

	Group 1 Task-oriented (n = 70)		Group 2 Mixed (n = 136)		Group 3 Process-oriented (n = 70)		F-Ratios determined	t-Values between groups		
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	by ANOVA	1-2	1-3	2-3
1	43.57	14.55	36.15	15.52	44.76	13.47	10.25**	3.32**	.50	3.94**
2	44.64	22.48	45.40	24.00	46.79	23.67	.15	.22	.55	.39
3	91.79	18.90	88.79	20.37	93.57	11.01	1.77	1.03	.68	2.19*
4	80.71	22.59	71.88	26.08	79.29	21.27	3.99*	3.41*	.39	2.05*
5	71.07	25.76	75.18	25.18	76.07	22.29	.87	1.10	1.23	.25
6	37.86	17.93	35.04	21.90	47.14	21.93	3.93*	3.26**	2.74**	.65
7	77.50	24.87	71.88	26.60	78.57	20.54	2.17	1.47	.28	2.00*
8	46.07	17.87	47.49	18.38	48.93	16.17	.46	.64	.99	.44
9	68.21	25.51	65.81	24.31	77.50	18.13	5.97*	.66	2.48*	3.89**
10	57.14	21.34	51.10	21.05	51.79	23.44	1.89	1.94	1.41	.21
11	64.64	23.50	62.13	23.17	70.00	19.78	2.84	.73	1.46	2.42*
Total	61.30	13.88	59.06	13.64	64.07	6.70	3.86*	1.11	1.50	3.53**

*Significant at $p < .05$. **Significant at $p < .01$.

- The process-oriented group (3) achieved the highest post-test means in 10 of 12 comparisons with the other two groups. These scores were significantly higher than those for participants in the task-oriented group (1) on two scales and significantly higher than the mixed group (2) on seven *t*-tests.
- Based on *t*-test, the mixed group (2) was significantly lower than one or both of the other groups on 8 of the 12 scales, resulting in a U-shaped comparison.

To study this relationship further, pre-test scores were subtracted from post-test scores to provide change scores. The changes in percentage of correct responses for each group are found in Table A-16. When change in achievement was considered, these findings emerged:

- The process-oriented group achieved the greatest change during CMTI of all groups on 9 of 12 scales, and second on the other three scales. In no case, however, was the process-oriented group significantly higher

than the task-oriented group based on *t*-test. The process group was significantly higher than the mixed group in 6 of 12 comparisons, while the task-oriented group was higher than the mixed group in 4 of 12 comparisons.

- The mixed group exhibited lowest mean change in achievement on 9 of 12 comparisons with the other two groups. For 7 of the 11 concepts and for the total, the mixed group was significantly lower than one of both of the other groups based on *t*-tests. This resulted in a pronounced U-shaped configuration for the three groups.

Table A-16: Mean change in percentage of correct responses between pre- and post-achievement tests by task- and process-oriented groups

	Group 1 Task-oriented (*n* = 70)		Group 2 Mixed (*n* = 136)		Group 3 Process-oriented (*n* = 70)		*F*-Ratios determined	*t*-Values between groups		
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	by ANOVA	1-2	1-3	2-3
1	9.05	26.27	.49	22.03	10.71	21.80	2.92	2.47*	.41	3.17**
2	−7.50	35.95	−10.85	33.29	0.00	35.86	2.01	.66	1.24	2.16*
3	18.11	33.76	13.60	34.41	20.36	32.77	.32	.92	.38	1.36
4	40.36	34.65	26.10	32.75	41.79	34.51	5.60**	2.90**	.24	3.20*
5	20.36	33.86	20.40	33.64	23.21	33.60	.28	.01	.50	.57
6	3.57	26.68	9.74	26.56	11.07	28.44	.52	1.58	1.61	.33
7	25.00	34.05	13.60	34.14	21.43	30.48	1.75	2.27*	.65	1.61
8	17.86	24.87	24.82	26.79	24.29	23.30	2.01	1.81	1.58	.14
9	3.57	39.31	0.37	34.69	12.14	30.62	1.07	.60	1.44	2.40*
10	24.64	29.02	11.76	29.65	18.21	28.53	1.25	2.97**	1.32	1.50
11	15.36	31.36	12.32	32.20	23.21	29.28	1.10	.65	1.53	2.37*
Total	15.22	20.70	10.66	18.91	18.42	17.65	2.33	1.59	.98	2.85**

*Significant at $p < .05$. **Significant at $p < .01$.

The third comparison in achievement among the three groups was on the regressed standard scores using only pretest scores in the regression equation. Standard scores were based on a population mean of 0.00 and a standard deviation of 1.0. Means, standard deviations, *F*-ratios, and *t*-tests for regressed scores are found in Table A-17. These findings are derived from analysis of regressed scores:

Table A-17: Regressed mean achievement scores for task-oriented and process-oriented groups†

	Group 1 Task-oriented (n = 70)		Group 2 Mixed (n = 136)		Group 3 Process-oriented (n = 70)		F-Ratios determined	t-Values between groups		
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	by ANOVA	1-2	1-3	2-3
1	.26	.87	−.27	1.01	.29	.93	10.20**	3.54**	.20	3.69**
2	−.32	.97	−.01	.99	.03	1.04	.05	.06	.29	.27
3	.18	.80	−.12	1.10	.06	.88	2.17	2.14*	.78	1.16
4	.27	.83	−.20	.97	.13	.97	6.09**	3.30**	.88	2.19*
5	−.09	1.02	.05	.90	−.02	.99	.46	.96	.40	.47
6	−.28	.80	.09	.99	.11	.99	3.67*	2.54**	2.41*	.15
7	.16	.79	−.13	.98	.09	.81	2.54	2.01*	.53	1.47
8	−.14	.95	.06	1.02	.02	.94	.84	1.27	.90	.29
9	−.07	1.07	−.13	.95	.32	.82	4.77**	.38	2.27*	3.16**
10	.31	.87	−.11	.89	−.08	1.09	4.45**	3.06**	2.17*	.25
11	.04	.94	−.13	.94	.22	.95	2.78	1.11	1.06	2.33*
Total	.15	.83	−.19	.76	.24	.63	8.58**	2.79**	.72	3.88**

*Significant at $p < .05$. **Significant at $p < .01$.
†Post-test regressed on pre-test scores.

- The total and 5 of 11 scales yielded significant *F*-ratios indicating differences in achievement among the three groups.
- Seven *t*-tests between group 1 (task-oriented) and group 2 (mixed) were significant, six of which favored group 1
- Three of 12 *t*-tests between group 1 (task-oriented) and group 3 (process-oriented) were significant, one of which favored group 1.
- Five *t*-tests between group 2 and group 3 were significant, all of which favored group 3.

The fourth comparison in achievement among the three groups was on the application/recognition test related to a filmed episode. The mean percentages for each of the three groups, *F*-ratios, and *t*-tests are included in Table A-18. This finding is drawn from that table:

- While the process-oriented group achieved higher than the other groups on 9 of 12 comparisons of means, only 2 were significantly higher, based on *t*-tests.

Table A-18: Mean percentage of correct responses on recognition/application test by task-oriented and process-oriented groups

	Group 1 Task-oriented (n = 70)		Group 2 Mixed (n = 136)		Group 3 Process-oriented (n = 70)		F-Ratios determined	t-Values between groups		
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	by ANOVA	1-2	1-3	2-3
1	52.83	23.39	54.66	22.10	57.86	18.55	.97	.54	1.40	1.04
2	53.33	32.30	55.39	31.22	62.86	27.54	1.96	.44	1.88	1.69
3	76.67	26.83	77.21	26.20	76.67	26.22	.01	.14	.00	.14
4	62.86	27.54	54.44	27.34	62.38	27.76	.37	.64	.10	.76
5	52.86	28.09	53.43	26.07	56.19	26.94	.33	.15	.72	.71
6	60.48	32.25	61.52	27.48	65.24	29.18	.54	.24	.92	.90
7	70.00	25.47	67.65	29.94	77.14	24.22	2.85	.57	1.69	2.33*
8	34.76	19.19	38.97	23.50	39.52	20.69	1.08	1.29	1.41	.17
9	72.38	28.92	68.87	29.03	74.29	26.11	.94	.82	.41	1.31
10	73.33	29.82	61.27	31.75	58.10	29.86	5.00**	2.64**	3.02**	.69
11	65.24	31.82	61.25	80.87	66.19	30.29	.65	.81	.18	1.04
Total	60.63	16.47	60.05	15.32	62.86	11.97	.84	.25	.91	1.15

*Significant at $p < .05$. **Significant at $p < .01$.

Discussion. Process-oriented groups tended to score higher on achievement tests than task-oriented groups. This trend held for all five achievement measures. These results clearly supported the process orientation in institutes if the criterion is achievement. This is an interesting conclusion in that most people holding the process orientation would speculate that attitudes and commitment are basic, with achievement an outcome of the process.

A second interesting finding was consistent for these data: both task-oriented and process-oriented groups achieved higher than the mixed group. One might reason that it was the strong consistent instructional style that led to higher achievement rather than the particular emphasis taken in instruction, since the mixed group was composed of clusters that could not be distinguished according to task or process orientation. The relevance of this finding for workshop organizers is clear:

- Be process-oriented; but if that is not possible, do not attempt to mix process-orientation with task-orientation.

8. *Assessment of Institute and Achievement*

A common practice in workshops, conferences, and courses is to have participants complete a form evaluating the effectiveness of the experience. Although the use of such instruments can be therapeutic (e.g., it makes people feel good to have their opinion asked or to be able to release pent-up steam against an otherwise boring experience), participant perception may also be a valid indicator of institute or workshop effectiveness in cognitive areas. While this assumption is widely held, little empirical evidence has been collected which either supports or refutes it. The purpose of this aspect of the study was to test this assumption. To do so, the following question was posed:

8. Is there a relation between participant achievement and participant assessment of CMTI?

Participant achievement was measured through a pre-test keyed to the content of the institute, a parallel post-test, a change score derived from subtracting pre-test from post-test scores on the achievement test, a regressed gain standardized score, and an application/recognition test derived from a filmed episode. Each of these tests of cognition has previously been described.

On the last day of the institute participants responded to a series of questions which probed their perception of the effectiveness of the institute. Five variables were embedded in the instrument: participant perception of the effectivess of (a) faculty, (b) content studied in the institute, (c) organization and management, (d) instructional activities, and (e) multicultural dimensions of the institute. A general rating was obtained as a sixth variable.

A Pearson *r* was computed between each of the four achievement measures and each of the six scales upon which the institute was assessed. These correlations are found in Table A-19. Inspection of the patterns of significant relationships yields several interesting findings:

Table A-19: Correlation between achievement and participant assessment of CMTI (n = 282)

Achievement measures	Participant assessment of CMTI					
	Faculty	Content	Organi-zation	Instruct. activities	Multi-culture	General
Pre-test	.00	−.11	.01	.04	.10	.03
Post-test	.20**	.03	.06	.14*	.13*	.22**
Change in achievement	.14*	.11	.04	.07	.01	.13*
Regressed gain†	.10	.03	.06	.08	.09	.14*
Application/recognition	.17**	.01	.08	.14*	.12*	.16**

*Significant at $p < .05$. **Significant at $p < .01$.
†Post-test regressed on pre-test and cluster membership.

- Pre-test scores were not related to any aspect of participant assessment of the institute.
- Significant relations were recorded for assessment of the faculty, instructional activities, multicultural, and general institute assessment for post-test and application/recognition tests.
- Regressed gain scores were significantly related only to the general assessment.
- Correlations were greater for post-test scores than for change scores when related to participant assessment of the institute.

Discussion. The pattern of positive correlations between achievement and assessment of the institute indicated that there was a relationship. Relatively consistent statistically significant relations between the two measures of achievement near the end of the institute (post-test and application/recognition), yet none for pre-test measures, further supports this finding. The low correlation (highest .22) confirms that the relation was not strong, accounting for no more than 5 percent of the variance.

This conclusion tends to support the contention of those who assert that student cognitive achievement can be inferred by examining satisfaction data. Low correlations, however, suggest that this relation is not strong.

MULTICULTURAL EXPERIENCE

While not an overt objective for CMTI, multicultural education was such an important part of Teacher Corps as to be reflected in the institute. CMTI participants represented a wide range of ethnicities/cultures who were drawn together, lived together, studied together, and learned about each other in formal and informal ways. Several questions related to this are pertinent to planning institutes and workshops:

9. Is there a difference in assessment of multicultural dimensions of CMTI by participants with different childhood residences?
10. Is there a difference in participant assessment of multicultural dimensions of CMTI by participants of different race or ethnicity?
11. Is there a difference in perceived pre-CMTI, post-CMTI, and change in perceived knowledge of multicultural education by participants with different childhood residences?
12. Is there a difference in perceived pre-CMTI, post-CMTI, and change in perceived knowledge of multicultural education by participants of different race or ethnicity?
13. Is there a difference in assessment of CMTI by participants of different race or ethnicity?

9. *Childhood Residence and Culture*

Although adults, the participants in the institute were products of their childhood environments and may have been influenced by them. Some spent their childhoods in rural areas, others in small communities, and others in sprawling urban complexes. One of the hypotheses generated by the management team was that these backgrounds were related to participant reaction to multicultural experiences. The study question posed to explore this hypothesis was as follows:

9. Is there a difference in assessment of multicultural di-

mensions of CMTI by participants with different childhood residences?

To test this question, all participants were asked to classify their childhood residence as Rural, Small Town (under 10,000), Small City (10,000-50,000), Inner City of over 50,000, or Suburb of City of over 50,000. Three statements about multicultural experience were made, with participants asked to rate CMTI on each statement (strongly disagree to strongly agree). These statements were as follows:

a. CMTI has increased my knowledge of other cultures.
b. The multicultural environment at CMTI enriched me personally.
c. Because of the multicultural environment at CMTI, I am likely to change my professional actions in the future.

Participant mean ratings on a five-point scale for these three items were analyzed and are listed by participant childhood residence in Table A-20; *t*-tests comparing each pair of childhood-residence scores are also recorded.

One of 10 of the *t*-test comparisons was significant. Participants whose background was rural areas rated the multicultural dimensions of CMTI higher than all other groups, and significantly higher than participants with inner city backgrounds.

Table A-20: Assessments of multicultural dimensions of CMTI by participants from different childhood residences

Childhood residence	*n*	Assessment of multicultural dimensions		*t*-values			
		Mean	S.D.	(2)	(3)	(4)	(5)
Rural	48	3.61	.59	1.01	.94	2.71**	1.48
Small town	42	3.49	.60		.03	1.53	.47
Small city	47	3.48	.76			1.42	.41
Inner city	85	3.30	.66				1.04
Suburb of city	56	3.42	.71				

**Significant at $p < .01$.

Discussion. Any discussion of this finding would be conjectural and speculative. One might assume, however, that persons from rural backgrounds would tend to reflect more homogenous cultural experience than persons from towns or particularly cities. Thus, CMTI, which emphasized culture through participant selection, living environment, and concern, might have been more effective in changing rural background participants' knowledge, attitudes, and performance in a multicultural society.

10. Race and Culture

The participants in CMTI were primarily from three racial/ethnic groups. Fifty percent were Anglo/Caucasian, 35 percent were Black, and 12 percent were Hispanic/Chicano. Because of the small number of Native Americans, Asians, and persons of other backgrounds, they were not included in the analysis for this question. The question posed in this part of the study was concerned with the differential impact of multicultural experiences at CMTI on each of these three groups. Specifically, the study question was as follows:

> 10. Is there a difference in participant assessment of multicultural dimensions of CMTI by participants of different race or ethnicity?

To answer this question, participants were classified by race/ethnicity and their ratings of CMTI multicultural education were compared. The same three questions on multicultural education as in question 9 were used as dependent variables. Means and standard deviations for each race on these three questions and *t*-tests, which compared pairs of responses, are found in Table A-21. The mean rating for Anglo/Caucasian participants on the five-point scales was 3.55. This was higher than that for either the Black or the Hispanic/Chicano participants, with significant differences at $p < .05$.

Table A-21: Assessments of multicultural dimensions of CMTI by Anglo-Caucasian, Black, and Hispanic/Chicano participants

Race/ Ethnicity	n	Assessment of multicultural dimensions		t-Values	
		Mean	S.D.	Black	Hispanic/Chicano
Anglo/ Caucasian	138	3.55	.68	1.98*	2.08*
Black	98	3.37	.68		.69
Hispanic/ Chicano	32	3.28	.65		

*Significant at $p < .05$.

Discussion. This finding was supported generally by other data collected at CMTI, including open-ended questions. Those participants who were Anglo/Caucasian tended to rate the multicultural experiences at CMTI higher than either of the minority races. For many, this was their first living/learning experience involving close interaction with people from a number of races, cultures, backgrounds, and experiences. While almost all participants reflected positively on this aspect of the institute, Anglo/Caucasians were particularly enthusiastic and supportive.

11. Childhood Residence and Perceived Multicultural Achievement

Another assumption by program designers was that persons from different childhood residences would perceive their change in multicultural understanding differently. It was assumed, for example, that participants from rural backgrounds would tend to rate their own change in knowledge higher than those from inner-city areas. To test this assumption the following question was posed:

> 11. Is there a difference in perceived pre-CMTI, post-CMTI, and change in perceived knowledge of multicultural education by participants with different childhood backgrounds?

Participants were classified according to childhood resi-

dence as rural, small town, small city, inner city, and suburb of large city. Each person was asked to respond to five statements in terms of his/her perceived knowledge prior to CMTI and at the end of CMTI. The five statements were:

1. I am aware that communication styles differ among cultural groups.
2. I am aware of more than one perspective on multicultural education.
3. I am aware of approaches teachers may use to draw upon the richness of the various cultures represented among their students.
4. I am able to identify stereotypes held by pupils and teachers concerning different cultural groups.
5. I can describe some of the factors which contribute to conflicts between schools and communities.

Responses were on a five-point scale with a 5 signaling familiarity great enough to teach others. Means and standard deviations for the five questions are included in Table A-22 for ratings of prior knowledge, post-CMTI knowledge, change between the two, and regressed gain. To determine the extent to which differences in mean ratings of various groups represented different populations, analyses of variance were computed. These data are reported in Table A-22. Only two ANOVA were statistically significant, both related to perceived prior knowledge of multicultural education. These differences were analyzed further through *t*-tests between populations based on childhood residence. These *t*-tests for perceived prior knowledge are reported in Table A-23. Data reported in Tables A-22 and A-23 led to these findings:

- When classified by childhood residence, participants rated their post-CMTI knowledge of multicultural education and their change in knowledge about the same.
- Participants from rural backgrounds tended to rate their pre-CMTI knowledge of multicultural education lower than others. Their ratings for question 1 related to

knowledge of communication styles was significantly lower than groups 2, 3, and 4. They rated their prior knowledge of stereotypes (question 4) lower than those in groups 4 and 5.

- Participants from small towns rated their prior knowledge of ability to identify stereotypes (question 4) lower than participants in groups 4 and 5.

Discussion. Participants from rural areas tended to rate their knowledge of multicultural education lower than those from

Table A-22: Childhood residence and perceived knowledge of multicultural education

Perceived knowledge of multicultural education	Rural (1) (n = 48)		Small town under 10,000 (2) (n = 42)		Small city 10,000-50,000 (3) (n = 47)		Inner city > 50,000 (4) (n = 85)		Suburb of city > 50,000 (5) (n = 56)		F-ratios derived from ANOVA
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Prior knowledge	2.65	.78	2.82	.65	2.88	.91	2.98	.77	2.82	.85	1.39
Question 1	2.65	.89	3.02	.81	3.26	1.05	3.01	.98	2.93	.99	2.52*
Question 2	2.46	1.03	2.71	.99	2.77	1.09	2.80	1.08	2.57	.97	1.08
Question 3	2.44	.97	2.57	.86	2.64	1.11	2.72	1.15	2.63	1.12	.55
Question 4	3.00	.95	3.10	.93	3.13	1.13	3.46	.93	3.52	1.03	3.10**
Question 5	2.71	1.01	2.71	.86	2.62	1.09	2.91	1.03	2.95	1.09	1.05
Post-CMTI knowledge	3.69	.63	3.64	.60	3.81	.69	3.84	.67	3.68	.69	1.05
Question 1	3.58	.77	3.52	.80	3.87	.80	3.68	.76	3.50	91	1.73
Question 2	3.67	.86	3.60	.73	3.85	.93	3.80	.88	3.59	.95	.99
Question 3	3.56	.90	3.50	.77	3.64	.90	3.72	.92	3.41	1.02	1.10
Question 4	3.90	.83	3.81	.83	3.94	1.03	4.08	.77	4.11	.82	1.18
Question 5	3.73	.71	3.76	.58	3.74	.87	3.92	.83	3.79	.71	.70
Change in knowledge	1.04	.75	.81	.80	.93	.87	.86	.73	.76	.70	1.08
Question 1	.94	.91	.50	.77	.62	1.13	.67	.82	.57	.78	1.88
Question 2	1.21	1.27	.88	1.15	1.09	1.02	1.00	1.02	1.02	1.00	.95
Question 3	1.13	.94	.93	1.00	1.00	1.10	1.00	.99	.79	.95	.71
Question 4	.90	.95	.71	.97	.81	1.21	.62	.76	.59	.83	1.86
Question 5	1.02	1.06	1.05	.94	1.13	.95	1.01	1.17	.84	.91	.87
Regressed gain†	.12	.79	−.06	.97	.06	.92	.06	.89	−.20	.78	1.06
Question 1	.11	.80	−.10	.96	.13	.94	.07	.78	−.23	.78	1.63
Question 2	.09	.99	−.06	.86	.06	.91	.04	.88	−.14	.93	.53
Question 3	.16	.82	−.02	.82	.03	.92	.08	.83	−.25	.82	1.17
Question 4	.08	.79	−.07	.94	−.00	1.08	−.00	.74	−.02	.81	.16
Question 5	.03	.88	.03	.75	−.02	.96	.07	1.05	−.12	.77	.36

*Significant at $p < .05$. **Significant at $p < .01$.
†Post-test regressed on pre-test and cluster membership.

Table A-23: T-value between groups with different childhood residences on their perceived knowledge of multicultural education

Perceived knowledge of multicultural education	Childhood residence group comparisons†									
	1-2	1-3	1-4	1-5	2-3	2-4	2-5	3-4	3-5	4-5
Prior knowledge	1.13	1.33	2.35*	1.66	.34	1.12	.60	.66	.21	.44
Question 1	2.10*	3.05**	2.14*	1.52	1.15	.07	.51	1.33	1.62	.49
Question 2	1.19	1.42	1.78	.58	.23	.43	.71	.17	.96	1.28
Question 3	.69	.94	1.43	.91	.31	.80	.26	.38	.06	.47
Question 4	.48	.60	2.71**	2.66**	.15	2.07*	2.10*	1.81	1.83	.35
Question 5	.03	.42	1.07	1.15	.46	1.04	1.14	1.51	1.53	.22

*Significant at $p < .05$. **Significant at $p < .01$.
†1 = Rural 4 = Inner large city
2 = Small town 5 = Suburb of large city
3 = Small city

other groups. These differences were particularly evident for knowledge of communication styles and ability to identify stereotypes held by pupils and teachers concerning different cultural groups. For the latter concepts, participants from small towns rated their pre-CMTI knowledge lower than those from large inner cities and suburbs of large cities.

When participants were asked to rate their knowledge at the end of CMTI, no differences were evident based on childhood residence. Both pre-CMTI and post-CMTI ratings were provided at the end of the institute; therefore perceptions of prior knowledge may have reflected feelings about the amount of change that had occurred during the three weeks. Prevalent among participants were discussions of socially related experiences, culturally based language patterns, and non-stereotypically related incidents. These discussions may have led to new insights and understandings about knowledge limitations before CMTI. Those from rural areas and small towns may have felt the influence of these experiences to a greater extent than those from other areas.

12. Race and Perceived Multicultural Achievement

Persons from different races may perceive multicultural education from varying perspectives. Further, they could rate their own knowledge of multicultural education differently

because of different perspectives and backgrounds. This aspect of the study probed that issue. Specifically, the following research question was posed:

12. Is there a difference in perceived pre-CMTI, post-CMTI, and change in perceived knowledge of multicultural education by participants of different race or ethnicity?

Participants' responses to the five previously discussed questions on multicultural education were used as dependent variables in this part of the study, while race (Anglo-Caucasian, Black, and Hispanic/Chicano) were the independent variables. Means and standard deviations on each of the five multicultural education questions for the pre-CMTI, post-CMTI, and change scores are included in Table A-24. Analyses of variance were calculated for each question, while *t*-tests were computed between pairs of groups (Anglo-Caucasian = 1, Black = 2, and Hispanic/Chicano = 3); these are reported in Table A-24.

The following findings are reflected in Table A-24:

- No significant differences between Black and Hispanic/Chicanos were apparent on the pre-test.
- Anglo/Caucasian participants rated their pre-test knowledge lower than Blacks on the composite score and on communication patterns. Before CMTI, Anglo/Caucasians felt they were less aware than Hispanic/Chicano participants of approaches teachers could use to draw upon cultural richness.
- This same pattern persisted at the end of CMTI. Anglo/Caucasians still rated their knowledge of communication lower than Blacks and they continued to rate their knowledge of teaching approaches lower than Hispanic/Chicanos. The latter was true also for Blacks on the post-test.
- The greatest change in perceived knowledge occurred for Hispanic/Chicano participants, who were better able to describe factors leading to school/community

conflicts. This large positive change resulted in significant differences between them and Anglo/Caucasian participants.

Discussion. When self-ratings of knowledge of multicultural education were analyzed according to the race of the participant, Anglo/Caucasians tended to rate themselves lower than Blacks or Hispanic/Chicanos. Differences were primarily apparent on understanding of cultural communication patterns and on approaches teachers could use to draw on the richness of cultures. These differences persisted throughout the institute.

Table A-24: Assessment of perceived knowledge of multicultural education by participants of various races/ethnicities

	Race						*F*-Ratio derived from ANOVA	*t*-Value for groups		
	Group 1 (*n* = 138) Anglo/Caucasian		Group 2 (*n* = 28) Black		Group 3 (*n* = 32) Hispanic					
	Mean	S.D.	Mean	S.D.	Mean	S.D.		1-2	1-3	2-3
Pre-	2.76	.82	2.96	.72	2.91	.82	2.22	1.97*	.93	.35
1	2.80	.94	3.17	.94	2.94	1.01	3.20**	2.97**	.71	1.21
2	2.59	1.02	2.74	1.07	2.75	.98	.52	1.15	.82	.02
3	2.49	1.05	2.60	1.02	2.91	1.06	2.33*	.80	2.01*	1.45
4	3.14	.99	3.37	.96	3.38	1.07	2.01	1.72	1.16	.04
5	2.75	1.05	2.91	.96	2.56	1.01	1.39	1.16	.94	1.74
Post-	3.66	.63	3.82	.68	3.82	.71	1.62	1.90	1.33	.03
1	3.53	.78	3.79	.83	3.59	.84	2.12	2.42*	.42	1.14
2	3.64	.85	3.76	.95	3.84	.77	.67	.99	1.25	.48
3	3.43	.89	3.66	.91	3.94	.88	2.56*	1.99*	2.94*	1.50
4	3.99	.83	4.01	.81	3.84	1.08	.97	.23	.70	.80
5	3.71	.73	3.89	.80	3.91	.73	1.49	1.78	1.37	.12
Change	.90	.71	.86	.81	.92	.91	1.24	.40	.12	.34
1	.72	.83	.61	.88	.66	1.21	1.01	1.00	.30	.19
2	1.05	.98	1.01	1.26	1.09	1.03	.18	.27	.22	.34
3	.93	.92	1.06	1.07	1.03	1.09	1.94	.97	.51	.14
4	.84	.92	.64	.89	.47	1.22	1.11	1.65	1.62	.75
5	.96	.96	.98	1.08	1.34	1.07	2.02	.17	2.02*	1.66
Regressed gain	−.03	.76	.03	.97	.06	1.06	.16	.42	.42	.15
1	−.03	.78	.07	.88	−.06	1.05	.40	.81	.17	.66
2	−.03	.82	−.01	1.08	.12	.87	.34	.11	.91	.63
3	−.09	.77	.08	.92	.22	.97	2.22	1.50	1.96*	.72
4	.10	.81	−.05	.81	−.27	1.15	2.63	1.29	1.74	1.03
5	−.05	.85	.02	1.00	.16	.91	.68	.52	1.22	.69

*Significant at $p < .05$. **Significant at $p < .01$.

13. Race and Institute Assessment

The last question explored in this phase of the study concerned the differences, if any, in participants' assessment of the institute and their race/ethnicity. Because multicultural dimensions were embedded in all experiences and because of the varied reactions to different aspects of the institute, different ratings of CMTI could have been anticipated from different racial/ethnic groups. Whether this occurred or not was the focus of this part of the study. The question asked was as follows:

13. Is there a difference in assessment of CMTI by participants of different race or ethnicity?

At the end of CMTI, participants were asked to rate the effectiveness of faculty, content, organization, instructional activities, and the institute generally. They reacted on a five-point scale to 16 items. The ratings for items related to faculty were pooled and the mean rating for the area computed. A similar procedure was employed for each of the other areas. These means and standard deviations are found in Table A-25, with *F*-ratios for each area and *t*-tests which compared pairs of areas.

Table 25: CMTI assessment by participants of different races/ethnicities

CMTI rating	Race: Group 1 (n = 138) Anglo/Caucasian		Group 2 (n = 28) Black		Group 3 (n = 32) Hispanic		*F*-Ratio derived from ANOVA	*t*-Value for groups		
	Mean	S.D.	Mean	S.D.	Mean	S.D.		1-2	1-3	2-3
Faculty	3.93	.68	4.03	.77	3.86	.64	.46	1.01	.53	1.10
Content	3.28	.78	3.65	.71	3.54	.69	3.97**	3.71**	1.76	.73
Organization	3.37	.75	3.60	.73	3.36	.84	1.74	2.29*	.07	1.51
Instructional	3.34	.57	3.52	.65	3.21	.67	2.08	2.22*	1.14	2.33*
General	3.85	.75	3.96	.77	3.84	.66	.51	1.05	.05	.75

*Significant at $p < .05$. **Significant at $p < .01$.

Black participants rated three areas significantly higher than Anglo/Caucasian participants: content included in CMTI, organization of the institute, and instructional activities. They

also rated instructional activities significantly higher than did Hispanic/Chicano participants.

Discussion. If the success of the institute was measured differentially in terms of participant ratings, those persons who were Black would have benefited greater than other groups. Their ratings were consistently higher than other participants', particularly Anglo/Caucasian. Whether this was because of the institute and its format, content, and processes or because of other unexplored reasons is yet to be determined.

STAFFING AND INSTRUCTIONAL STYLES

Selecting instructors for institutes and workshops and emphasizing certain instructional strategies over others are important considerations in planning. This series of questions explores some possible relationships.

14. Is there a relation between the experience of the cluster staff in workshops and institutes and participant assessment of the institute?
15. Do participants in clusters with a greater percentage of direct instruction or in clusters with a greater percentage of interactive instruction rate CMTI higher?
16. Do participants who are assigned to clusters whose instructors were involved in planning CMTI assess CMTI higher than those whose cluster instructors were not involved in planning CMTI?
17. Is there a relation between the extent of *(a)* direct instruction of *(b)* interactive instruction in a cluster and participant selection of instructors to work on a hypothetical educational problem?
18. Is there a difference between clusters that are more task-oriented and those more process-oriented in their rating of the extensiveness of concept emphasis at CMTI?
19. Is there a relation between assessment of CMTI and perception of the extent to which content was emphasized?

14. Staff Experience and Institute Assessment

In employing faculty for workshops and institutes, the question of previous experience invariably is introduced. Some argue for experienced instructors, while other opt for "fresh approaches" or some balance. With no data to support either of these positions, the question often is settled by considering the following question:

> 14. Is there a relation between the experience of the cluster staff in workshops and institutes and participant assessment of the institute?

The experience of the cluster staff was determined in two ways: (1) the number of instructors in each cluster with previous CMTI experience, and (2) the total number of years instructors had been teaching adults. Participant assessment of CMTI was based on 16 questions related to general assessment of the institute, faculty, content, organization of CMTI, instructional activities, and multicultural dimensions.

CMTI Experience. Three instructors (one a "leader") were assigned to each of the eight clusters. In two clusters, all three instructors had previous CMTI experience; in two clusters, two of the faculty had previous experience; and in four clusters, only one instructor had participated in previous CMTIs. These were classified as "most previous CMTI experience," "moderate previous CMTI experience," and "least previous CMTI experience." Means and standard deviations of participant ratings for each of these groups are included in Table A-26.

To determine if differences among groups were significant, *F*-rations were calculated and *t*-tests were computed between Group 1 (most experienced) and Group 2 (moderate experience), between Group 1 and Group 3 (least experienced), and between Group 2 and Group 3. These are included in Table A-27. The Pearson product-moment correlation between CMTI participant assessment and instructor CMTI experience was also computed.

Table A-26: Means and standard deviations of participant assessment of institute by cluster classified on the basis of experience of cluster staff members in previous CMTI institutes

CMTI rating	Group 1 Most previous CMTI experience		Group 2 Moderate previous CMTI experience		Group 3 Least previous CMTI experience		Total	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
General	2.97	.62	3.98	.69	3.79	.83	3.87	.74
Faculty	4.06	.64	4.11	.68	3.84	.75	3.95	.71
Content	3.47	.66	3.58	.83	3.37	.81	3.43	.75
Organization	3.56	.78	3.35	.65	3.36	.78	3.43	.77
Instructional	3.47	.62	3.46	.63	3.29	.60	3.38	.61
Multicultural	3.49	.63	3.38	.60	3.42	.72	3.43	.67

Table A-27: F-rations, t-values, and correlations for institute assessment of clusters grouped by instructors' previous CMTI experience

CMTI rating	t-Values for groups			r	F-Ratios derived from ANOVA
	1-2	1-3	2-3		
General	.06	1.97*	1.25	.12*	2.19
Faculty	.41	2.46*	1.97*	.15*	4.02*
Content	.81	1.04	1.38	.06	1.28
Organization	1.42	1.96*	.06	.12*	2.24
Instructional	.15	2.33*	1.44	.14*	2.98
Multicultural	.90	.76	.31	.05	.47

*Significant at $p < .05$. **Significant at $p < .01$.

Data in Tables A-26 and A-27 indicate that, while the correlation coefficients were low, significant relationships were found on four of the six CMTI assessment scales when ratings were compared with staff experience in previous CMTIs. *F*-ratios yielded only one statistically significant finding, related to faculty. When *t*-tests were computed, the major differences were between Group 1 (most experienced) and Group 3 (least experienced). The clusters with most experienced faculty were more highly rated on four scales (general assessment of CMTI, faculty, organization of institute, and instructional activities in institute). The two scales on which no significant differences were evident were content of CMTI and multicultural aspects of CMTI.

Teaching Experience with Adults. Each instructor was asked to list the number of years of experience teaching adults. The sum for the three instructors in a cluster was used in computations. The total numbers of years for clusters were 27, 25 (classified as Group 1 for *t*-tests); 24, 22, 20, 19 (classified as Group 2); and 16, 15 (classified as Group 3). Mean ratings for CMTI for each of these groups are reported in Table A-28.

To determine the relationships and differences among clusters, Pearson *r*'s were computed for all participants, *F*-ratios were determined for each variable, and *t*-values were calculated between each of the pairs of groups. These are included in Table A-29.

Table A-28: Means and standard deviations for institute assessment by clusters classified by years of adult teaching experience of faculty

CMTI rating	Group 1 Most adult teaching		Group 2 Moderate adult teaching		Group 3 Least adult teaching		Total	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
General	4.04	.62	3.85	.68	3.78	.93	3.87	.74
Faculty	4.12	.64	3.88	.68	3.95	.79	3.95	.71
Content	3.58	.74	3.40	.68	3.35	.91	3.43	.75
Organization	3.54	.69	3.35	.79	3.50	.80	3.43	.77
Instructional	3.56	.60	3.30	.62	3.37	.60	3.38	.61
Multicultural	3.45	.60	3.47	.67	3.38	.75	3.43	.67

Table A-29: Correlations, F-rations, and t-values for participant assessment of the institute by groups based on instructor experience in teaching adults

CMTI rating	*t*-Values for groups			*r*	*F*-Ratios derived from ANOVA
	1-2	1-3	2-3		
General	1.91	1.93	.56	.13*	1.22
Faculty	2.48*	1.41	.68	.06	2.52*
Content	1.74	1.67	.44	.12*	1.00
Organization	1.66	.34	1.22	.04	.81
Instructional	2.87**	1.84	.81	.14*	2.32*
Multicultural	.20	.62	.88	.04	.98

*Significant at $p < .05$. **Significant at $p < .01$.

Three of the correlation coefficients (general assessment, content, and instructional activities) were significant, indicating some, but not strong, relationships between experience of faculty in teaching adults and participant rating of CMTI. Significant *F*-ratios were found for faculty and instructional activities. When *t*-tests were computed, these differences were attributed to the ratings for Groups 1 and 2 (most experience and moderate experience), favoring those with most experience.

The following findings are relevant to question 14:

- Significant, but not strong, relationships were found between instructor's previous experiences in CMTI and participant assessment of the institute on four scales: general assessment, faculty, organization, and instructional activities. The greatest distinction, as verified by *t*-tests, was between those clusters in which only one instructor had previous experience in CMTI and those in which all three had previous experience, favoring the latter.
- Significant but not strong relationships were found for three scales (general assessment, content, and instructional activities) when the number of years of adult teaching experience was considered.
- Ratings of multicultural aspects of CMTI were not related to instructor experience.

Discussion. In selecting instructors for an institute, it would appear that their previous experience in similar institutes is an important consideration. Participants in CMTI generally rated the institute higher when they were assigned to clusters with experienced CMTI instructors. This may be particularly true when the workshop is similar in format and content to workshops in which the staff had previously worked. Major differences in CMTI assessment occurred between clusters in which only one of the instructors had previous CMTI experience and those in which all three instructors had previously worked with CMTI, favoring the latter.

15. Direct Instruction, Interactive Instruction, and Institute Assessment

Some instructional activities may be considered more direct than others. For example, presentations, demonstrations, and audio-visual films, tapes, or slides/tapes are *direct* modes of instruction. They are primarily one-way communications and expository. Other activities lend themselves to more open interaction among participants—discussions, group problem solving, role playing, or gaming. These are not two ends of the same scale, but they do describe two varying approaches to instruction.

Do participants rate institutes differently when one or the other of the modes is emphasized? This question is important for those planning the activities for a workshop, and it is stated for this study as follows:

> 15. Do participants in clusters with a greater percentage of direct instruction or in clusters with a greater percentage of interactive instruction rate CMTI higher?

During CMTI, observers recorded the extent to which each of nine instructional activities was employed in each cluster. Approximately 168 four-minute observations were recorded during the three weeks for each cluster, 12 per day for 14 days. Five of the nine types of instructional activities were relevant to this question. The extent of direct instruction was determined by summing the number of observations of *(a)* faculty presenting, *(b)* faculty demonstrating, and *(c)* faculty using audiovisual aids. Interactive instruction was determined by summing *(a)* participant discussion or problem solving with *(b)* participant role playing, simulating, or gaming. The procedures for deriving these values were discussed in conjunction with question 4 of this study.

Clusters were characterized as "highly direct," "moderately direct," and "less direct," based on the extensiveness of observed direct instructional activities. Likewise, clusters were formed into three groups (high, moderate, and low) on the

basis of the extensiveness of interactive instruction. Clusters so classified are shown in Table A-30. To determine if there were differences among these groups, *t*-tests, were computed. CMTI ratings were based on five-point scales. The means and standard deviations for these are included in Table A-31 for each of the three direct instruction groups.

Table A-30: Composition of direct instruction and interactive instruction groups by clusters

Directness	Cluster	Cluster n	Group n
High (1)	B	30	
	E	35	65
Moderate (2)	C	36	
	F	35	
	H	35	106
Least (3)	A	35	
	D	34	
	G	36	105
Total		276	276

Interactiveness	Cluster	Cluster n	Group n
High (1)	A	35	
	F	35	70
Moderate (2)	B	30	
	C	36	
	D	34	
	G	36	136
Least (3)	E	35	
	H	35	70
Total		276	276

Clusters B and E were classified as using the greatest amount of direct instruction; clusters C, F, and H, moderate amounts of direct instruction; and clusters A, D, and G, the least direct instruction. Based on observations of interactive instructional activities, clusters were grouped differently. Clusters A and F were most interactive; B, C, D, and G, moderately interactive; and E and H, least interactive.

To determine if there were differences among these groups, *F*-ratios and *t*-tests were computed. The dependent variables were the CMTI program assessments for several dimensions of the institute. CMTI ratings were based on five-point scales. Further, Spearman rho correlations were computed for two sets of relationships: (1) observed direct instruction and participant ratings on each of six measures, and (2) observed interactive instruction and participant ratings on each of six measures.

Direct Instruction. The mean and standard deviations for program assessments are included in Table A-31 for each of three direct instruction groups. Spearman rho correlation coefficients, *F*-ratios, and *t*-tests were computed and are included in Table A-32. None of the correlations of *F*-ratios and only two of 18 *t*-tests were significant, and those two were not consistently so. Directness of instruction did not appear to be related to participant assessment of CMTI.

Table A-31: Means and standard deviations on participant CMTI ratings for clusters classified by extent of direct instruction (n = 282)

CMTI rating	Group 1 Most direct instruction		Group 2 Moderate direct instruction		Group 3 Least direct instruction		Total	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
General	3.93	.76	3.85	.76	3.88	.72	3.87	.74
Faculty	3.93	.75	3.86	.65	4.08	.72	3.95	.71
Content	3.51	.78	3.42	.82	3.40	.68	3.43	.75
Organization	3.25	.75	3.54	.77	3.44	.80	3.43	.77
Instructional	3.31	.65	3.39	.60	3.42	.61	3.38	.61
Multicultural	3.49	.72	3.45	.71	3.40	.61	3.43	.67

Table A-32: Spearman rho correlation coefficients, F-ratios, and t-values for participant ratings from clusters classified by extent of direct instruction (n = 282)

CMTI rating	*t*-Value for groups			*F*-Ratio derived from ANOVA	Spearman rho
	1-2	1-3	2-3		
General	.66	.41	.31	.23	−.02
Faculty	.72	1.29	2.41*	2.84	.11
Content	.72	1.02	.24	.49	−.06
Organization	2.51*	1.54	.97	2.95	.07
Instructional	.84	1.17	.39	.71	.06
Multicultural	.32	.86	.58	.37	−.06

*Significant at $p < .05$.

Interactive Instruction. Two clusters were classified as highly interactive, four as moderately so, and two as less interactive on the basis of obsreved instruction. Means and standard deviations of CMTI ratings for each of these three groups are included in Table A-33. Spearman rho correlation

coefficients, *F*-ratios, and *t*-tests for these variables are reported in Table A-34. Low but significant correlations were obtained for two scales based on the extensiveness of interaction. Participants rated organization and instructional activities higher when they were in more interactive clusters. These same two variables were significant when tested using *F*-ratios. When *t*-tests were computed between pairs of the three groups, differences on four of the six scales were found. In each case, ratings favored the more interactive clusters. Participants in more interactive clusters tended to rate CMTI higher.

Table A-33: Means and standard deviations on participant CMTI ratings or clusters classified by extent of interactive instruction (n = 282)

CMTI rating	Group 1 Most interactive instruction		Group 2 Moderate interactive instruction		Group 3 Least interactive instruction		Total	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
General	4.06	.56	3.81	.85	3.85	.66	3.87	.74
Faculty	3.99	.66	3.97	.75	3.91	.67	3.95	.71
Content	3.58	.60	3.34	.82	3.47	.75	3.43	.75
Organizational	3.62	.75	3.40	.83	3.32	.64	3.43	.77
Instructional	3.56	.55	3.30	.64	3.36	.60	3.38	.61
Multicultural	3.55	.64	3.43	.77	3.36	.56	3.43	.67

Table A-34: Correlations, coefficients, and t-value on participant CMTI ratings for clusters classified by extent of interactive instruction (n = 282)

CMTI rating	*t*-Value for groups			*F*-Ratios derived from ANOVA	Spearman rho
	1-2	1-3	2-3		
General	2.62**	2.07*	.42	2.95	−.11
Faculty	.21	.68	.51	.22	−.05
Content	2.31*	.95	1.05	2.29	−.04
Organization	1.90	2.59*	.77	3.09*	−.15*
Instructional	2.90**	2.05*	.66	4.30**	−.12*
Multicultural	1.17	1.90	.77	1.49	−.12

*Significant at $p < .05$. **Significant at $p < .01$.

These findings summarize data on question 15:

- There was no relationship between the extensiveness

of direct instructional modes (e.g., presentation and demonstration by faculty and faculty use of audiovisual methods) and participant assessment of the institute.

- When clusters were classified by the extent of interactive instruction (e.g., discussion and simulation by participants), significant differences consistently favored those clusters where more interactive instruction had occurred.

Discussion. Participant assessment of an institute's effectiveness does not appear to be related to the extensiveness to which instructors present information, demonstrate, and use expository audiovisual materials. Their assessment does, however, seem to be related to the amount of participant interactive activities. The greater the amount of discussion, problem solving, simulation, and gaming, the higher participants rated the institute. While correlations between these two factors—observed interaction and institute assessment by participants—were low, they were consistent and often statistically significant. Institute instructors wishing to make students feel more positive about the experience would be advised to incorporate a large measure of interactive activities.

16. Instructor Input into Planning and Institute Assessment

Common thinking has held that instructors must be involved in planning institutes if they are to feel comfortable and committed and, consequently, if their students are to perceive the experience positively. While not testing the first part of this assumption, data from CMTI permitted assessment of the validity of the second part. The study question posed was as follows:

16. Do participants who are assigned to clusters whose instructors were involved in planning CMTI assess CMTI higher than those whose cluster instructors were not involved in planning CMTI?

Before staff orientation, when everyone was involved, 11 of the 24 faculty members were engaged in planning meetings for CMTI. Three participated in three planning meetings; three in only two planning meetings; five in just one planning meeting; and thirteen in none. These are described by clusters in Table A-35.

Table A-35: Number of planning meetings attended by cluster instructors

Cluster	Number of planning meetings attended			Total No. planning meetings attended	Group
	Instructor	Instructor	Instructor		
A	2	1	0	3	2
B	1	0	0	1	3
C	2	0	0	2	2
D	1	1	0	2	2
E	1	0	0	1	3
F	3	0	0	3	2
G	3	2	0	5	1
H	3	0	0	3	2

Instructors in one cluster attended a total of five meetings; from three clusters, a total of three meetings; from two clusters, a total of two meetings; and from two clusters, one meeting. Three clusters had had two instructors attending planning meetings, while five had had only one instructor at planning meetings. Clusters were grouped as follows: Group 1, total of five meetings; Group 2, total of two or three meetings; Group 3, total of one meeting. Means and standard deviations for each of these groups with respect to their assessment of CMTI are included in Table A-36. Correlations, *F*-ratios, and *t*-tests, for these values are included in Table A-37.

None of the correlation coefficients or *F*-rations approached significance. Two *t*-test comparisons were significant at $p < .05$—first for faculty ratings between Group 1 (highest attending group) and Group 2 (mid-group), with the cluster having greatest input into planning being rated higher. Second, Group 2 (mid-group) was rated significantly higher than Group 3 (one person at one planning meeting) on organization.

Table A-36: Means and standard deviations on participant CMTI ratings for clusters classified by the number of planning meetings attended by their instructors (n = 282)

CMTI rating	Group 1 Highest attendance		Group 2 Medium attendance		Group 3 Lowest attendance		Total	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
General	3.79	.69	3.88	.75	3.93	.76	3.87	.74
Faculty	4.20	.56	3.92	.71	3.93	.75	3.95	.71
Content	3.26	.74	3.44	.75	3.51	.78	3.43	.75
Organization	3.44	.84	3.50	.76	3.25	.75	3.43	.77
Instructional	3.31	.71	3.43	.58	3.31	.65	3.38	.61
Multicultural	3.37	.62	3.44	.67	3.49	.72	3.43	.67

Table A-37: Correlation coefficients, F-ratios, and t-values on participant CMTI ratings for clusters classified by the number of planning meetings attended by their instructors

CMTI rating	t-Value for groups			F-Ratios derived from ANOVA	r
	1-2	1-3	2-3		
General	.67	.91	.44	.41	.02
Faculty	2.26*	1.89	.13	2.50	.09
Content	1.32	1.59	.66	1.31	.07
Organization	.49	1.13	2.31*	2.60	.08
Instructional	1.10	.02	1.37	1.22	.02
Multicultural	.58	.84	.50	.37	.03

*Significant at $p < .05$.

The pattern of mean ratings, however, did not support the contention that participation in planning was related to student assessment of institute effectiveness. None of the *F*-ratios or correlations was significant, and only two of 18 *t*-tests were. Further, the means on the general assessment variable, content, and multicultural for clusters whose instructors had least involvement in planning were higher, although none of the *t*-tests was statistically significant. The relationships on the other three variables tended to be curvilinear. Thus, the finding for this phase of the study was as follows:

- There was no relationship between instructor participation in planning CMTI and participant assessment of the institute.

Discussion. While there may be psychological reasons for involving the faculty in early planning phases of an institute, there appears to be no valid basis in participant assessment of the results. This finding is tempered by two facts. First, all faculty participated in seven days of intensive planning before CMTI; and second, the assessment of CMTI occurred at the end of the institute and thus may not have reflected differences among clusters that were due to instructor knowledge of or participation in planning. Had there been a cluster where no instructors participated in planning or had there not been such a long training period for all instructors, the results of this analysis might have been different. Further, had the assessment occurred near the beginning of the institute, differences might have been more pronounced. In that period, the distinctions caused by knowledge of planning decisions may have resulted in varied practices.

Because of the extenuating circumstances and because no clear relationships were evident, it was concluded that this study question could not be answered adequately.

17. Direct Instruction, Interactive Instruction, and Perceived Instructor Competence

One further consideration was probed in the study of direct instruction and interactive instruction. The hypothesis was suggested that participants would tend to select a greater number of instructors to work on a hypothetical educational problem when their cluster had a higher percentage of interactive instructional experiences. The counter hypothesis was that they would perceive more positively instructors who tended to present information and use direct instruction and would tend to select them. To test these hypotheses, the following question was posed:

17. Is there a relation between the extent of *(a)* direct instruction or *(b)* interactive instruction in a cluster and participant selection of instructors to work on a hypothetical educational problem?

The extent to which direct instruction was employed was drawn from observational records, while choice of persons (including instructors) to work on an educational problem was a question asked at the end of the institute. Both of these variables have been discussed previously. Correlation coefficients were computed between measures on each variable for each of the eight clusters. These coefficients are included in Table A-38. None of the relationships was statistically significant. There appeared to be no relation between mode of instruction and choice of instructor to work on an educational problem.

Table A-38: Correlation between instructional mode emphasized in a cluster and selection of participants' cluster instructor(s) to work on a hypothetical educational problem (n = 8)

Instructional mode	Leader of participants' own cluster selected	Instructor of participants' own cluster selected	Leader or instructor of participants' own cluster selected
Direct	−.60	.25	−.14
Interactive	.11	−.08	−.01

18. Task Orientation and Perception of Concept Emphasis

Task and process orientation have clearly been two approaches to institutes. In data related to question 7, participants in process-oriented clusters tended to achieve higher scores on content tests than those in task-oriented groups. This phase of the study was concerned with perception of content emphasis by participants in task-oriented and process-oriented groups. To what extent would they perceive content emphasis differently? To consider this issue, the following question was posed:

18. Is there a difference between clusters that are more task oriented and those more process oriented in their rating of the extensiveness of concept emphasis at CMTI?

Two clusters were clearly more task oriented at CMTI,

while two others were primarily process oriented. The other four clusters were not distinctly one or the other. These three resulting groups (most task oriented, Group 1; mixed group, Group 2; and most process oriented, Group 3) formed the basis for analysis in this aspect of the study. The percentage of perceived emphasis was drawn from participant ratings on the post-CMTI assessment. Means and standard deviations for these percentages are shown for each of the 11 concepts in

Table A-39: Means, standard deviations, and t-values on perceived emphasis of content and process-oriented groups

	Group 1 Task-oriented (n = 70)		Group 2 Mixed (n = 136)		Group 3 Process-oriented (n = 70)		F-Ratios determined	t-Values between groups		
Concept	Mean	S.D.	Mean	S.D.	Mean	S.D.	by ANOVA	1-2	1-3	2-3
1	88.00	14.20	79.41	18.69	75.14	16.13	10.55**	3.68**	5.01**	1.62
2	76.00	18.53	72.35	20.23	72.71	16.15	1.13	1.26	1.46	.25
3	80.86	20.83	69.26	19.38	76.29	16.78	1.04	.54	1.43	1.09
4	81.14	17.32	82.79	20.39	74.86	19.17	3.96*	.58	2.04*	2.70**
5	79.43	16.67	72.50	19.31	68.57	14.27	6.99**	2.55*	4.14**	1.65
6	81.71	15.51	75.59	18.49	69.14	15.86	9.43**	2.37*	4.74**	2.48*
7	81.14	17.66	73.97	18.91	69.43	16.23	7.64**	2.64**	4.09**	1.71
8	85.43	15.57	82.35	19.18	76.29	16.08	4.99**	1.16	3.42**	2.27*
9	82.29	17.21	77.50	20.58	72.29	16.78	4.93**	1.67	3.48**	1.83
10	82.29	16.17	76.47	18.68	69.43	15.12	9.80**	2.21*	4.86**	2.73**
11	66.29	21.68	67.94	20.98	64.57	17.08	.66	.53	.52	1.16
Total	80.42	13.23	76.28	14.99	71.61	11.20	7.28**	1.90	4.25**	2.57*

*Significant at $p < .05$. **Significant at $p < .01$.

Table A-39. The patterns of response substantiate these findings:

- When classified by task or process orientation, participants rated the extent of emphasis on concepts significantly different. This was substantiated by 9 of 12 significant *F*-ratios (8 at $p < .01$) when analyzed by one-way analyses of variance.
- Participants in the most task-oriented group (Group 1) perceived that concepts were emphasized to a greater extent than those in the other two groups in 10 of 12 comparisons. Nine *t*-tests between this group and the

process-oriented group were significant, while five were significant when compared to Group 2.

- When means are examined, participants in the most process-oriented group (3) rated content emphasis lower than either of the other groups on 11 of 12 comparisons. When *t*-tests were computed, 5 of 12 were significantly lower than Group 2, and 9 of 12 were significantly lower than Group 1.

Discussion. Consistent findings support the conclusion that task-oriented clusters were just that, and that their participants recognized the extensive emphasis being placed on CMTI content concepts. On the other hand, the process-oriented clusters were less involved in such concepts and participants rated them accordingly.

19. Content Emphasis and Institute Rating

Finally, was participant perception of the extent to which concepts were emphasized related to their assessment of the institute? Participants often complain that there is no substance in a workshop and tend to rate it as less than effective. This phase of the study tested the assumption that those persons who believed content was more strongly emphasized would tend to rate the institute more positively. This question was posed to probe the issue:

19. Is there a relation between assessment of CMTI and perception of the extent to which content was emphasized?

At the end of the institute, participants rated CMTI on several items which were parts of six scales: general assessment, faculty, content, organization, instructional activities, and multiculture. Further, they rated each of the 11 concepts included in CMTI in terms of its perceived emphasis. Pearson product-moment correlations were computed between these two sets of measures. These are reported in Table A-40. Data from this table can be summarized as follows:

- All correlations were positive and significant at the .01 level. When participants perceived a greater emphasis on content at CMTI, they tended to rate the institute more positively. These correlations were relatively high, considering the context and other similar correlation coefficients.

Table A-40: Correlation between participant rating of CMTI and perceived emphasis on content (n = 282)

Participant assessment of CMTI	Perceived emphasis r
Faculty	.35**
Content	.33**
Organization	.22**
Instructional activities	.20**
Multiculture	.20**
General assessment	.32**

**Significant at $p < .01$.

Discussion. The hypothesis was supported that participants who believe content is being emphasized in an institute tend to rate the value of the institute more positively. Correlation coefficients were high and relatively consistent, accounting for as much as 10 percent of the variance.

Organizers of institutes should consider the perceived emphasis on content if they are concerned with how participants rate institutes. They may wish to consider processes in which participants are made aware of how much content is being taught.

SECTION 3: SUMMARY OF FINDINGS

This section of the report summarizes findings from the considerable data and hundreds of analyses reported in Section 2. Some of these findings have been formulated as conclusions for institute designers; however, those conclusions do not include all findings.

Findings are summarized by (1) participant achievement, (2) multicultural education, and (3) staffing and instructional

styles. Findings are listed in numerical order by study questions so the reader can readily refer to the appropriate data for further understanding.

Participant Achievement

1. Achievement varied among clusters.

2. Achievement on a concept was not related to the amount of time devoted to teaching that concept.

3. The relation between achievement and *perceived* emphasis was low and generally not significant. It was, however, somewhat stronger than the relation between achievement and *observed* time on concept (No. 2).

4. Achievement was not related to either the extent of observed direct instruction (e.g., lectures, presentations, audiovisual by instructor) or to observed interactive instruction (e.g., discussion, simulations by students).

5. Participant perception of the extent to which concepts were emphasized was related to the extent of observed *direct* instruction. No such relationship was found for *interactive* instruction.

6. Achievement was not related to choice by participants of cluster leader or other instructors to work on an educational problem. This finding must be tempered by the number of significant relations, and should be tested further.

7. Achievement was highest for participants in process-oriented groups. Task-oriented groups were next, with groups that were not clearly process or task oriented lowest.

8. Pre-CMTI achievement was not related to participant assessment of the institute; however, post-CMTI and application/recognition test scores were positively related for four of six scales (faculty, instructional activities, multicultural, and general assessment), while regressed gain scores were related only to faculty assessment.

Multicultural Education

9. Assessment of the multicultural dimensions of the in-

stitute was not related to childhood residence of participants.

10. While all participants rated the multicultural dimensions of the institute high, those who were Anglo/Caucasians rated them higher than Hispanic/Chicanos or Blacks.

11. When participants were classified by childhood residence, all rated their post-CMTI knowledge of multicultural education about the same. Those from rural backgrounds, however, rated their pre-CMTI knowledge lower than others on differences in communication styles and knowledge of stereotypes. Those from small towns rated their knowledge of stereotypes lower than those from large cities.

12. Anglo/Caucasian participants rated their pre-CMTI and post-CMTI knowledge of communication lower than Blacks and felt less aware than Hispanic/Chicano participants of approaches teachers could use to draw upon cultural richness.

13. Black participants rated the institute higher in three areas than Anglo/Caucasian participants: content, organization, and instructional activities. They also rated instructional activities higher than Hispanic/Chicano participants.

Staffing and Instructional Styles

14. Significant but not strong relationships were found between instructors' previous experience in CMTI and participant assessment of the institute on four scales: general assessment, faculty, organization, and instructional activities. When analyzed by *t*-tests, the greatest distinction was between those clusters in which only one instructor had previous experience in CMTI and those in which all three had previous experience, favoring the latter group. Instructor experience was not related to ratings of multicultural experiences.

15. Participant assessment of the institute was not related to extensiveness of direct instruction. However, those clusters using more interactive instruction (e.g., discussions, simulations) were more highly rated.

16. There was no relationship between instructor partici-

pation in planning CMTI and participant assessment of the institute.

17. The extensiveness of either mode of instruction—direct or interactive—was not related to the extent to which instructors were selected by participants to work on an educational problem.

18. Participants in task-oriented groups perceived that content was emphasized to a greater extent than participants in process-oriented or mixed groups.

19. When participants perceived a greater emphasis on content, they tended to rate the institute more positively.

REFERENCES

Berliner, D. C., and B. Rosenshine. The acquisition of knowledge in the classroom. Report submitted to California Commission for Teacher Preparation and Licensing, Sacramento, California, 1976.

Campbell, D. T., and A. Erlebacher. How regression artifacts can mistakenly make compensating education look harmful. In J. Helmuth (Ed.), *Disadvantaged Child* (Vol. 3), pp. 185–210. New York: Bruner/Mazel, 1970.

McNemar, Q. On so-called test bias. *American Psychologist*, 1975, *30*, 848–51.

Medley, O. M. *Teacher Competence and Teacher Effectiveness: A Review of Process-Product Research*. Washington, D.C.: American Association of Colleges for Teacher Education, 1977.

Nie, N. E., H. Hull, J. Jenkins, K. Steinbrenner, and D. Bert. *Statistical Package for the Social Sciences* (2nd ed.). New York: McGraw-Hill, 1975.

Soar, R. S. Problems in analyzing process-product relationships in studies of teacher effectiveness. *Journal of Education*, 1978, *160* (3), 96–116.